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standard

contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur

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Major Buildings described: Details of Planning, Construction, Finishes and Costs Buildings in the News Building Costs Analysed Architectural Athenintments

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Wanted	and	Vacant	s
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A R C H I T E C TARS' JOURNAL for March 21, 1957 JOURNAL for March 21, 1957 APR 8 1957 JOURNAL for March 21, 1957

 \bigstar A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to le one week. In to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IHVE Institution of Heating and Ventilating Engineers. 49, Cadogan Square. Sloane 1601/3158 IIBDID Incorporated Institute of British Decorators and Interior Designers 100, Park Street, Grosvenor Square, W.1. Institute of Landscape Architects. 2, Guilford Place, W.C.1. Institute of Arbitrators. Hastings House, 10, Norfolk Street, Mayfair 7086 Holborn 0281 II.A I of Arb Strand, W.C.2. Temple Bar 4071 Museum 7179 Place, W.1. Welbeck 1859 Institute of Builders. 48, Bedford Square, W.C.I. Institute of Quantity Surveyors. 98, Gloucester Place, W.I. Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851 IOB IQS IR Institute of Registered Architects. 47, Victoria Street, S.W.I. Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.I. Lead Development Association. Eagle House, Jermyn Street, S.W.I. IRA Abbey 6172 ISE Sloane 7128 LDA Whitehall 7264/4175 London Master Builders' Association. 47, Bedford Square, W.C.I. Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.I. LMBA Museum 3891 LSPC Whitehall 7264/4175 Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 7711 MAFF Ministry of Education. Curzon Street House, Curzon Street, W.1. Mayfair 9400 Ministry of Health. 23, Savile Row, W.1. Whitehall Street Research and Local Government. Whitehall, S.W.1. Whitehall 4300 Ministry of Labour and National Service. 8, St. James' Square, S.W.I. Whitehall 6200 Ministry of Supply. Shell Mex House, W.C.2. Gerard 6933 MOE MOH MOHLG MOLNS MOS Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Mayfair 9494 Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611 Natural Asphalte Mine Owners and Manufacturers Council. MOT MOW NAMMC

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 Abbey 4813

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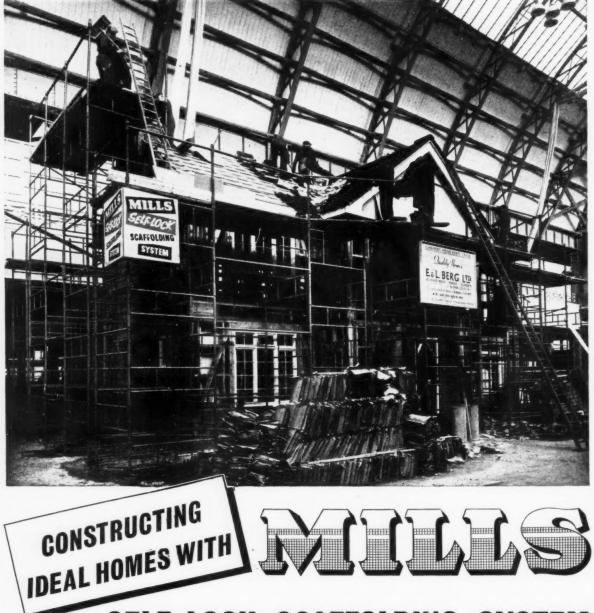
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 NAS NBR NCBMP National Employers Federation of the Mastic Asphalt Industry NEFMAI 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927 National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054 NEBTE NFBTO National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4 National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whitehall 10 National House Builders Registration Council. 82, New Cavendish Street, W.1. Macaulay 4451 Whitehall 1693 NFHS NHBRC Langham 4341 NPI National Physical Laboratory. Head Office, Teddington. Moless Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. Molesey 1380 NRDB Mansion House 9383 NSAS National Smoke Abatement Society. Palace Chambers, Bridge Street, S.w.1. Transfer 620 National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211 Political and Economic Planning. Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504 Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631 Fountainbridge 7631 NT PEP RCA RIAS RIBA Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5721 RICS Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9242 Whitehall 3935 Royal Fine Art Commission. 5, Old Palace Yard, S.W.1. RFAC Royal Society. Burlington House, Piccadilly, W.I. Royal Society of Arts. 6, John Adam Street, W.C.2. Royal Society of Health. 90, Buckingham Palace Road, S.W.1. Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. RS Regent 3335 Trafalgar 2366 Sloane 5134 RSA RSH Wimbledon 5101 RIB SBPM Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.I. Victoria 2186 Society of Engineers. 17, Victoria Street, Westminster, S.W.I. Abbey 7244 School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3. SF Mansion House 3921 SIA Society of Industrial Artists. 7, Woburn Square, London, W.C.1. Langham 1984/5 Structural Insulation Association. 32, Queen Anne Street, W.1. SIA SNHTPC Langham 7616 Scottish National Housing. Town Planning Council. Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646 SPAB TCPA Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006 Timber Development Association. 21, College Hill, E.C.4. TDA City 4771 Town Planning Institute. 18, Ashley Place, S.W.1. Timber Trades Federation. 75, Cannon Street, E.C.4. War Damage Commission. 6, Carlton House Terrace, S.W.1. Victoria 8815 TPI TTF City 5040 Whitehall 4341 WDC ZDA Zinc Development Association. 34, Berkeley Square, W.1. Grosvenor 6636



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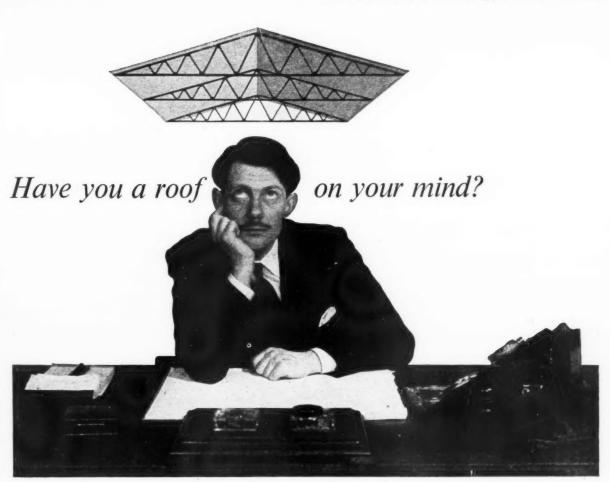
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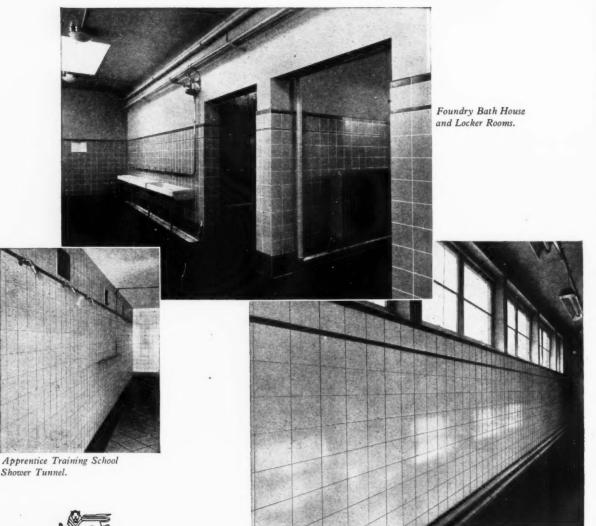
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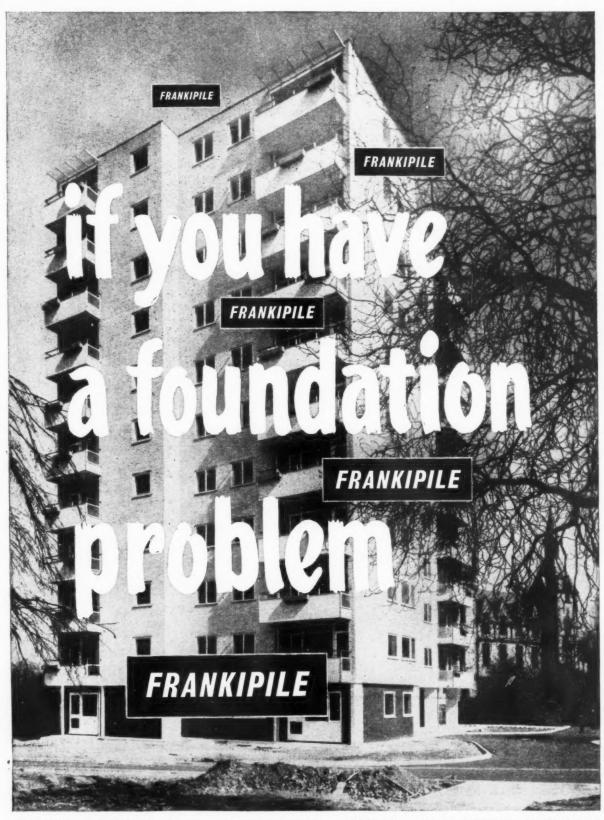
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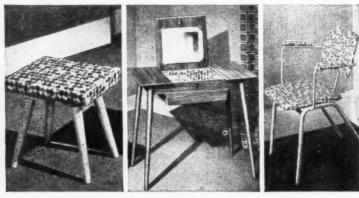
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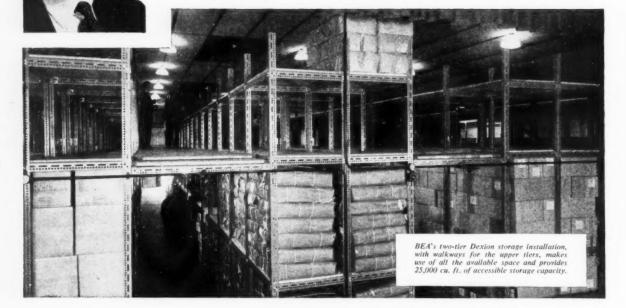
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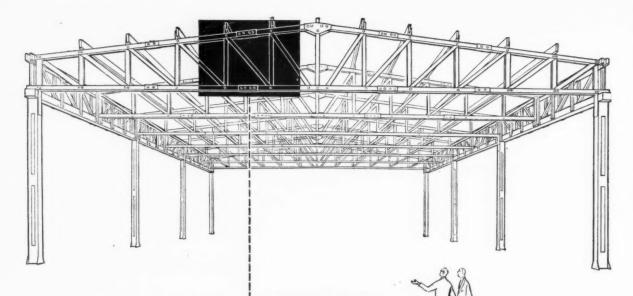
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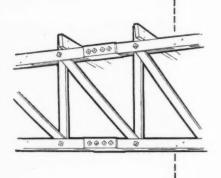


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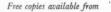
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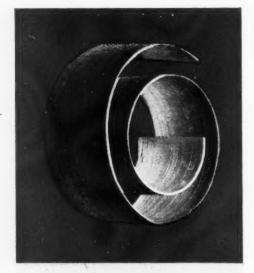
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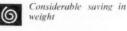
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from the FALKS range of weatherproof outdoor contemporary wall fittings



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The anodised aluminium reflector, with shaped lower edge is finished inside, bright etched and anodised, the outside is stove enamel in blue-grey and also the aluminium alloy bracket and support quadrant. Fitted with porcelain B.C. Lamp holder for use with 100 150 watt Lamp. Fixing is by means of a quadrant plate holed at 2° centres for attachment to B.S. conduit box.

VICEROY

This fitting consists of a cast aluminium wall bracket with backplate, carrying an 18 S.W.G. anodised aluminium spinning. All visible metalwork finished blue-grey stove enamel. Glassware is in white opal,

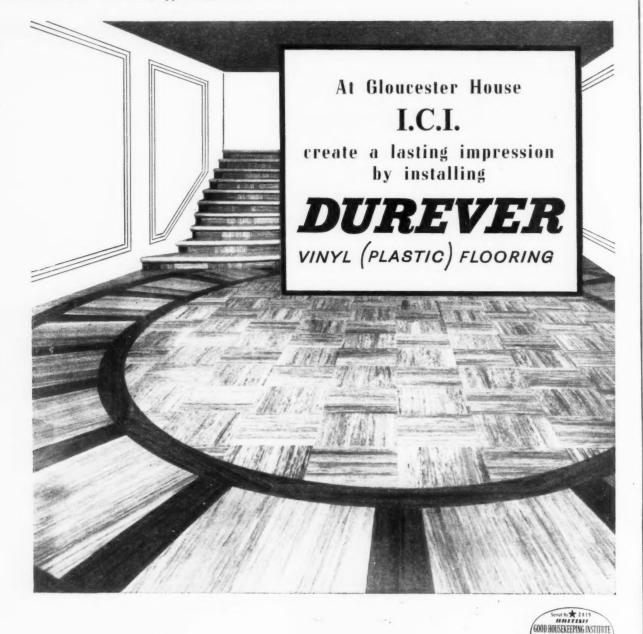


lipless, and has an overall diameter of 9°. B.C. Lamp holder provided for use with 100 150 watt Lamp, which may be removed, for cleaning or replacement, through the aperture in the glassware.



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THE ARCHITECTS' JOURNAL (Supplement) March 21, 1957

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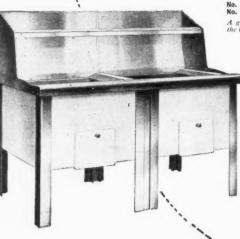


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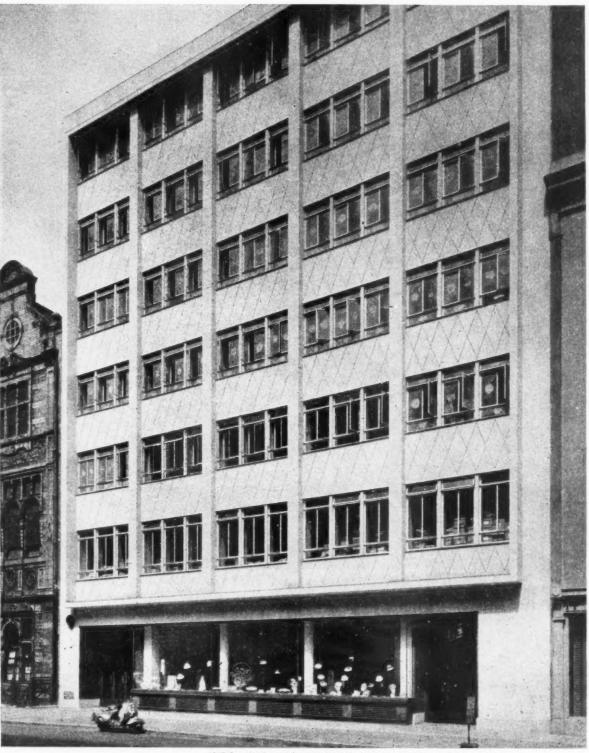
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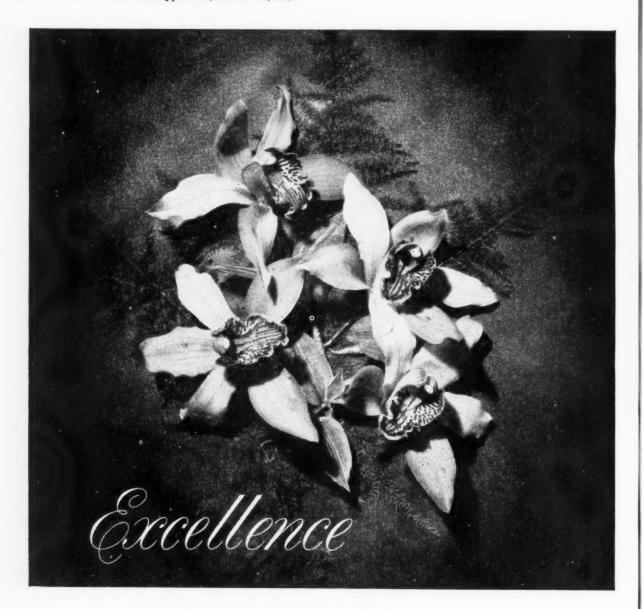
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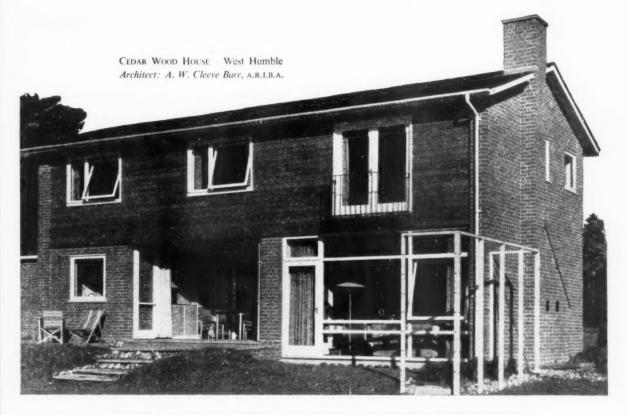
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I.P.W.A. Booklet A.10 is a reprint of Paper 22, Central Heating Systems, as presented at the Institute of Fuel Conference held in London on May 1st and 2nd, 1956.

Booklet A.10 has 16 pages with 14 small illustrations, mainly $\frac{1}{8}$ in. scale plans showing six different heating schemes, radiator, skirting, floor and ceiling systems designed to suit the heat requirements of a representative semi-detached two-storey house which was selected by Building Research Station as a basis for estimating the total capital costs incurred, including attendant builders' work, with different forms of heating and hot water supply. These costs are given in the booklet. The text discusses the results of house heating experiments at Abbots Langley, the case for central heating, temperatures required in living rooms, kitchens and bedrooms, the characteristics and amenities of different systems, with brief reference to blocks of flats and the possibility of small "district heating" schemes for groups of houses.

Members of IPWA are primarily concerned with larger installations and may not be well placed to undertake contracts for single houses at competitive prices, but are able to do so for blocks of flats or groups of 50 or more identical houses.

Booklet A.10 is available free of charge on completing and returning the reply-paid enquiry form at the end of this issue of the Journal.

See Sample page opposite

INVISIBLE PANEL WARMING ASSOCIATION GRAND BUILDINGS, TRAFALGAR SQUARE, W.C.2

9

to 7 ft. 6 in. for ease of transport; lengths up to 12 ft.

Panels are fixed with the pipes almost horizontal; with gravity circulation provision is often made to vent each panel at both ends, with the connections so arranged that when filling the system the water level does not rise to the flow connection until the panel is fully charged.

System 6. Hollow-ceiling Heating.

The author regards this method as particularly suitable for houses; in his view this system will be in common use a few years hence.

During the past year or so much research has been done on the application of this form of heating to various types of ceiling, plaster, asbestos and metal, mainly with a view to its use in large buildings to meet dry construction or acoustic requirements. From the

Ceiling Ceiling panel panel Kitchen Returns to header 11/2 flow riser 1"H.W.S. return f 3 Boiler Living room Refurn header near ceiling Return at floor to hailer Hall floor Ceiling panel panel Hall 3/4" drop from above Ground floor plan 20 Scale. feet

FIG. 5.—System 5, embedded ceiling panels (ground floor).

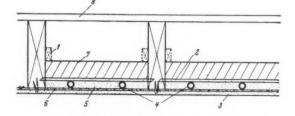


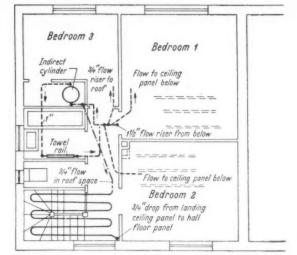
FIG. 5B.—System 5, embedded ceiling panels, showing method of laying pipes.

Fillets, required if pugging to be applied from below.
 14 in. × 4 in. flat bars cut into joists.
 Floating and setting coats.
 Pipes at centres to suit joist spacing, wired to flat bars.
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work already done on small pilot installations it is evident that the method has attractive features for house-heating.

The pipes are not embedded but are accommodated in a shallow space formed below or between the joists, which are suitably insulated. Water is circulated at ordinary radiator temperature, by gravity for small houses, through serpentine-pipe panels generally similar to, but somewhat larger than, embedded panels. Special plastering is not required and, as welded connections are not essential, installation need not be by specialist firms once the technique has been firmly established.

The panel layout and pipe-runs shown in Figs. 5 and 5A could be used with hollow-ceiling heating. Indeed, with the use of higher-temperature water some simplification is possible. For example, the ceiling panel over the landing and the hall-floor panel could be omitted in



First floor plan

0 5 10 15 20 Scale, feet

FIG. 5A.—System 5, embedded ceiling panels (first floor).

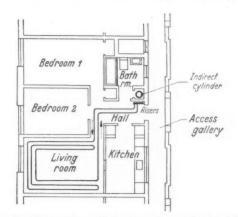
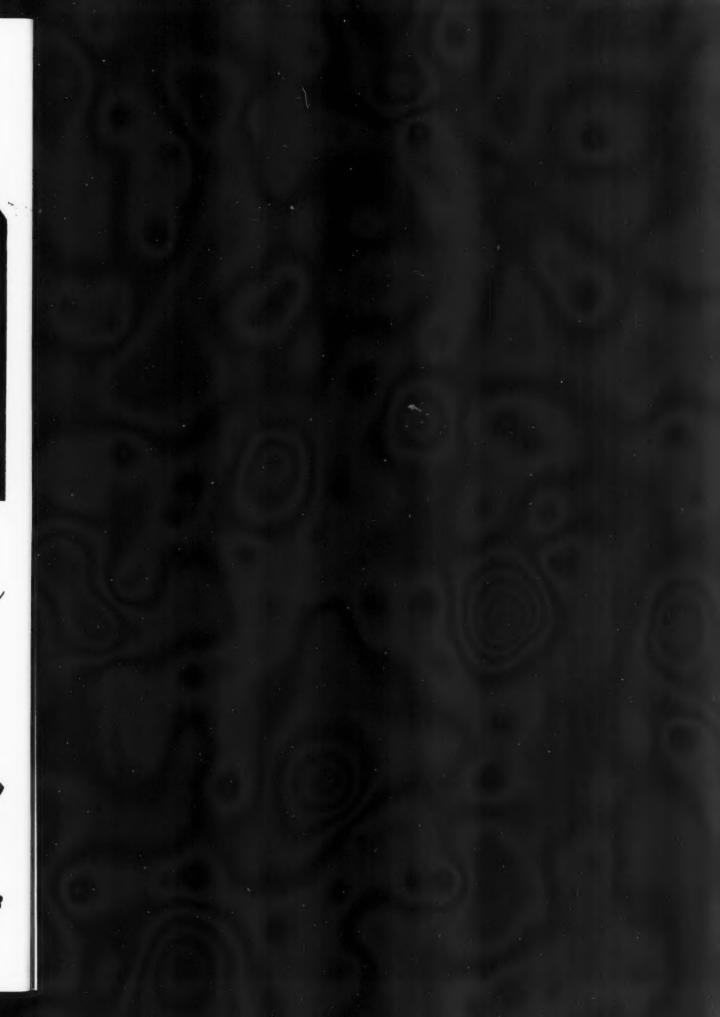


FIG. 6.—System 5, embedded panels in a block of flats.



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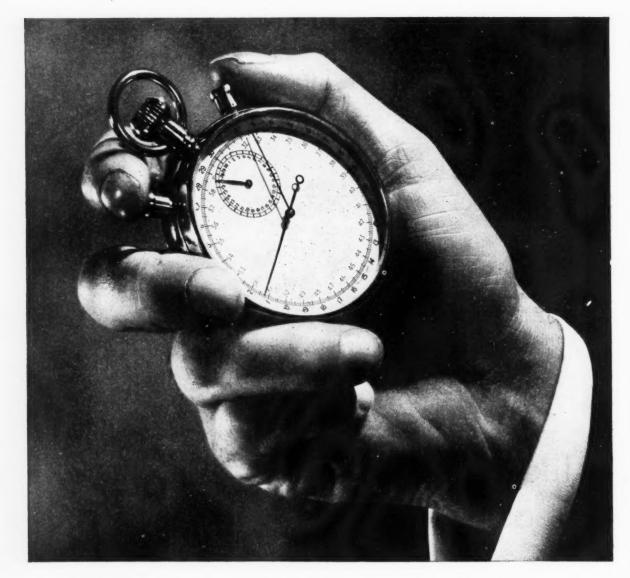
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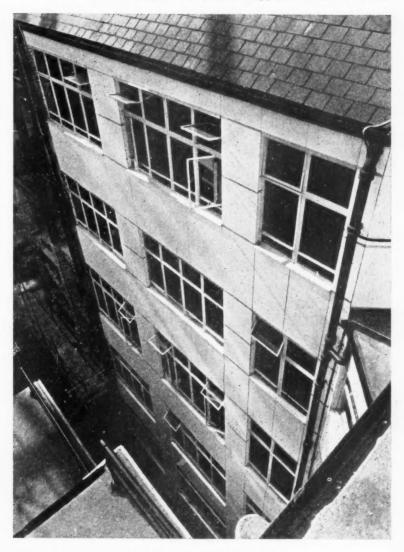


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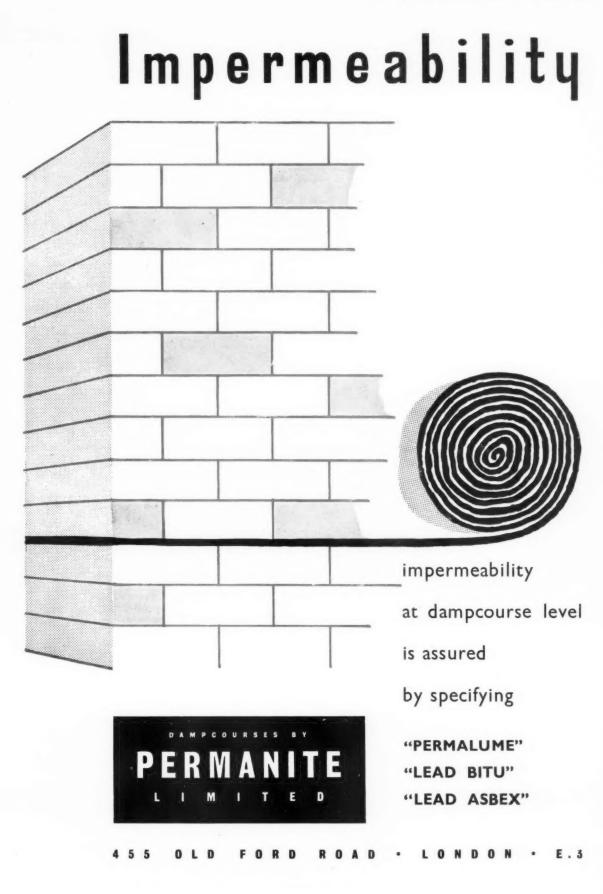
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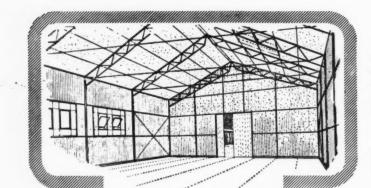
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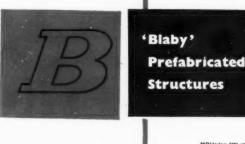
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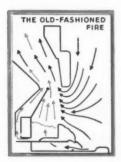
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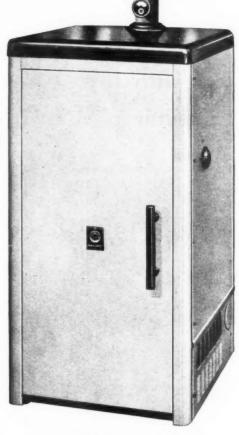
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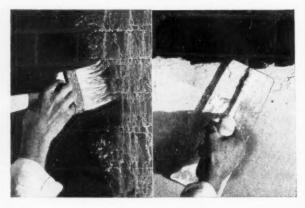
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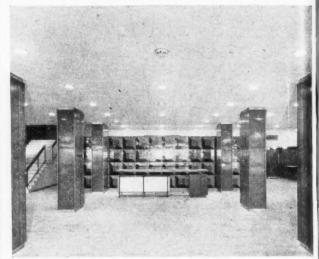
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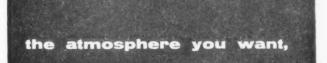
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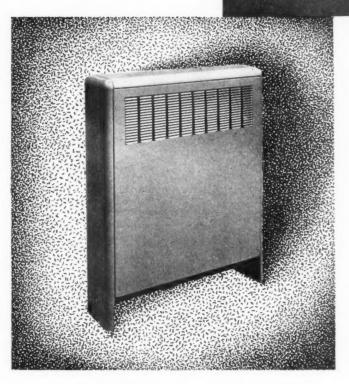
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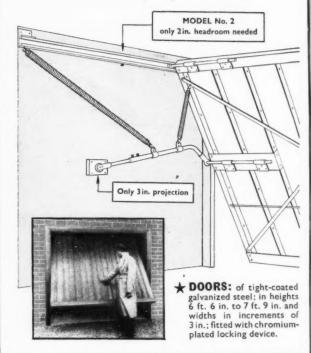






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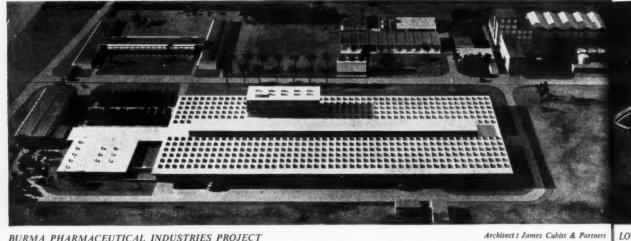
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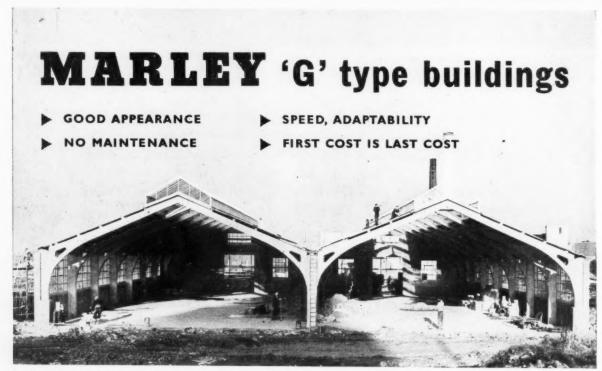
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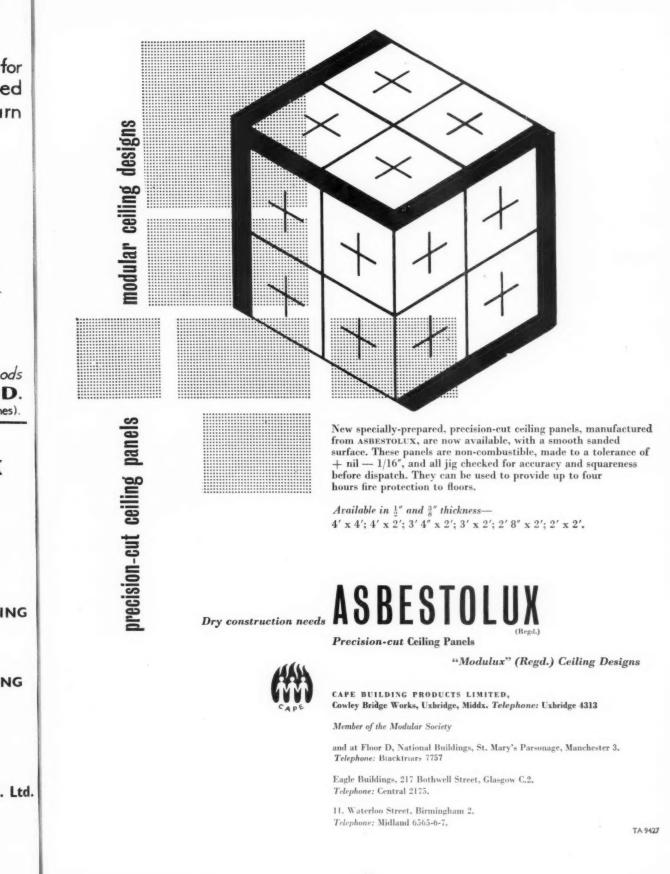
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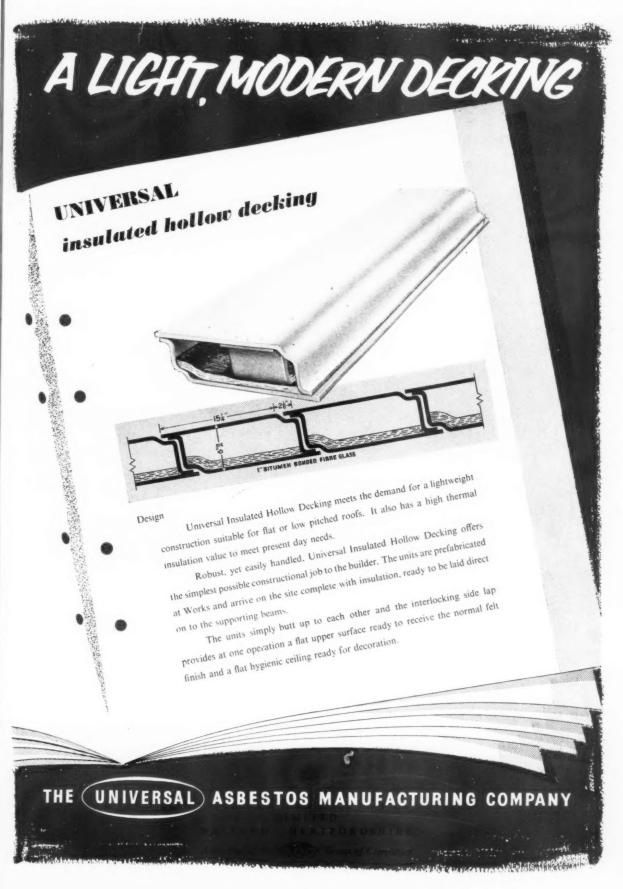


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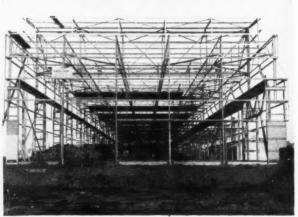




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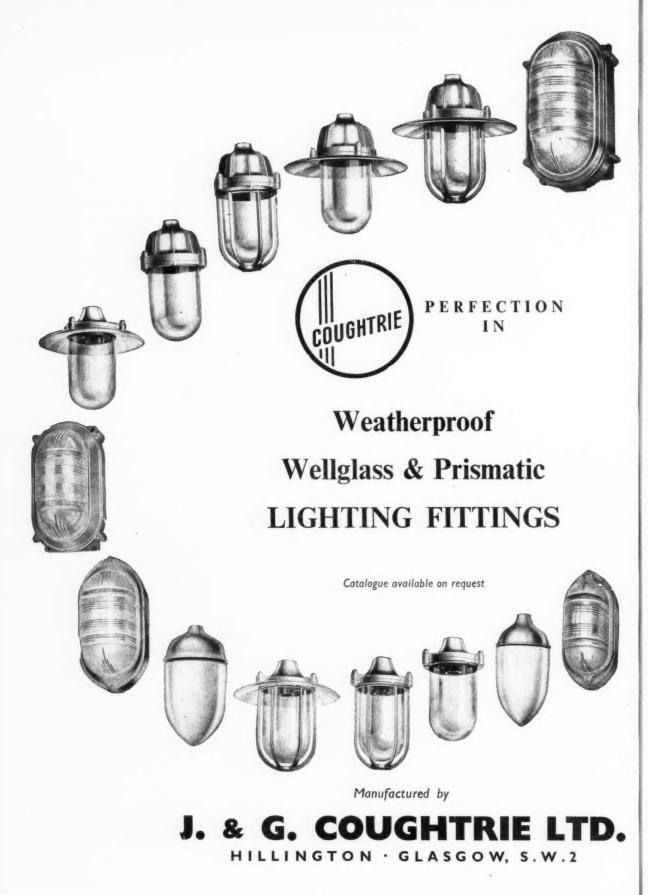
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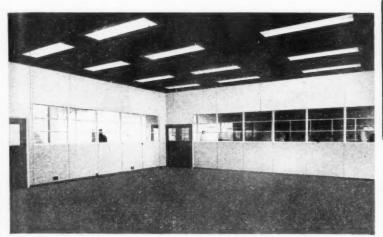
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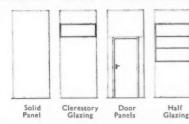
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THE ARCHITECTS' JOURNAL for March 21, 1957



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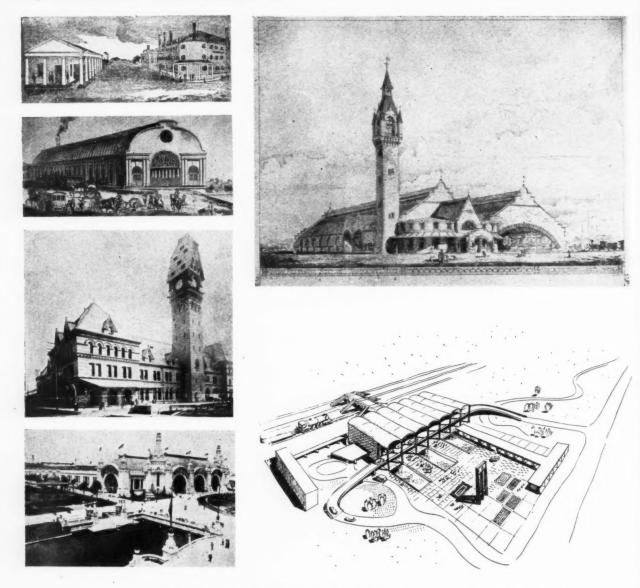
NOT QUITE ARCHITECTURE

THE CALIPH

"I have no power of life and death ... Otherwise I should have no compunction in having every London architect's head struck from his body at ten o'clock tomorrow morning, unless he grappled with the problems of his art, and endeavoured to improve his understanding of it."

These brave words were not uttered by top brass at BRS or RFAC, as you might pardonably suppose, but by Wyndham Lewis, painter, pamphleteer, novelist, Vorticist, Herbert-Read-baiter, and author of some of the most hairraising scripts ever aired on the Third. Yet out of all his multifarious and randomly-directed activities, it is only his views on architecture that are of any long-term significance—but these, of course, have not been mentioned by the residual tweedsmen of the Thirties who have been gaffering over his bier since he died, a couple of Thursdays ago.

Curiously enough, though, the hard core of their encomiums has been the very quality that gives him a place in architectural history. Lewis led, by a very short head, the retreat from Futurism, and from Edwardian optimism generally. He contracted out of the Gadarene rush of empirical, progressive thought, and just stood there, like a pillar of very pure salt, cultivating a reputation for integrity and threatening at any minute to start walking backwards for classicism. He hated time and history—for him they stopped early



. . Through the Middle of the House''

"Railway termini . . . are truly the only real representa-tive buildings we possess." That is what the editors of *Building News* wrote in 1875, and Carroll Meeks—in his historical book, The Railway Station*-has written a study of the architecture of the Western world since 1800 as revealed by this type of building. In his extremely readable book Mr. Meeks discusses the railway station "as architecture (serving new functions), as engineering (construction of huge roofs in new materials), and as works of art (expressing taste)." Among the 231 illustrations (mostly American) in the book are those reproduced here. Top left is the earliest-surviving design for a station. At a time (1835) when English engineers were dominating railway design, this highly-individual example of a railroad running through the middle of the house (it was even called a "car house") was built at Lowell, Mass. Beneath it is an example of the arched train barn (Cincinnati, Ohio) which was common in America in the 1850's. The onl/ railway station like it in this country is at Fenchurch Street, and Mr. Meeks considers this to be an instance of an American invention sending its influence eastward. Twent, years later, in 1875, the remarkable Union Passenger Station (top right) was built at Worcester, Mass. It was designed

by Ware and Van Brunt, who were very disappointed because they were not allowed to have a higher tower. Today, the tower of this inconveniently-planned building is all that remains of the original design, although there are, of course, many remaining stations with Gothic seasoning in America. Ten years later, fantasy was beginning to disappear from the railway station, but in C. W. Eidlitz's buildings-such as the one in Chicago, third picture down on the left-it was retained in the towers. By the beginning of the 1900's, station buildings were moving in style from High Victorian to baroque: the bottom picture on the left is of the transportation building, by E. L. Masqueray at the St. Louis Exhibition of 1904. All these stations, Mr. Meeks claims, have values judged by modern standards. " In days to come," he writes, " calculated use will be made of such 19th century experiments and false starts as the room-street, and both train-sheds and shopping arcades may be studied as the starting points for new developments.' His final illustration, shown above, is of Matthew Nowicki's design for a station to be built at Chandigarh, India. ASTRAGAL reviews the book on page 419.

*Architectural Press, 60s.

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in 1914-machinery he bade function no more, but remain static and statuesque like himself. At the time when he applied the brakes he was well out in front, and a long way out in front of architectural thought. When he finished polishing and perfecting his ideas on architecture, the Twenties had just begun, architecture had caught him up, and The Caliph's Design-a sheaf of essays from which the quotation above is taken-is near enough contemporary with Corb's first books, and reads like Corb seen from the other side of the looking glass.

"Rather, let the Engineer and the Painter fix up a meeting and talk over the sadly involved affairs of this decaying concern . . . buy out the Architect. go into partnership, and produce what would neither be a world of boxes (as it would be if the Engineer controlled house-construction - vide skyscrapers) nor of silly antique fakes. . . . The Cubist painters of Paris, the quantities of ponderous painters to be found cubing away in that city, are the best fitted for this rôle. It is they who should supersede, in a practical liaison with the Engineer, the virtually extinct Architect."

*

This, though couched in words that Corb would never have used, is Corb's specification for himself, dreamed up by Wyndham Lewis without having seen a modern building, without having read anything more exciting than Lethaby and C. H. Caffin. But Lewis's specification for Lewis is the Caliph of the title essay, an abstract and arbitrary autocrat who dreams up an ideal street according to purely visual fancies, and then threatens his architect and engineer with decapitation if they can't produce working drawings for it overnight. This is the monster the two-headed Corb-figure was intended to serve.

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Views from the yon side of the mirror are not always flattering, but they often contain certain truths not visible from our side. Corb, notoriously, has his Caliph-complex, some of his biggest completed works have been done for Nehru, Stalin, and the only townplanner he ever praised by name was Louis Quatorze. It's well worth going back and re-reading Lewis on Architecture, just to see how far the Modern Movement is what it has claimed to be, and how much it is just part of some would-be Caliph's design.

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* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous

The Editors

BYELAWS

T Was welcome news (as reported in the JOURNAL of March 7) that the Town Planning Committee of the LCC is to review the London Building Acts and the byelaws. It naturally prompts the question of whether the time has not also come to review the byelaws throughout the country. It is now five years since the new model byelaws were first published and, in the interim, the great majority of local authorities have adopted them. When they were first published they received a great ovation from serious architects because of the celebrated " deemed to satisfy " clauses. These architects had previously been chafing at their inability to get well-attested new methods of construction through the older "rule of thumb" byelaws, and in their simplicity they then imagined that the good news of these new methods of construction would spread like wildfire through the professions and that authorities everywhere would readily acknowledge that they were "deemed to satisfy". In practice it has not turned out quite like that. We did not, in 1952, appreciate how inadequate are our building research facilities and what a long time it therefore takes for new methods of construction to receive sufficient tests; nor did we appreciate the difficulties of those who must administer the byelaws, their limitations of time and of training, and the heaviness of the responsibilities that they must bear.

Perhaps the second of these factors has done most to render the " deemed to satisfy " clauses a disappointment. After all, it is hardly fair to expect the district surveyor of a remote rural district to be a sort of one-man building research station; and, as he is not this, why should he accept and thence take some measure of responsibility for, a method of construction with which he is unfamiliar, even though the architect has it on good authority that the LCC once issued a waiver for it? On the other hand, why should the building owner and his architect have to adopt a more costly way of building simply because the officer administering the byelaws has no motive and facility for investigating the trustworthiness of what they propose?

The moral, surely, is that MOHLG should accept a greater REYNER BANHAM | measure of responsibility in this matter and should, from time

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to time, issue instructions concerning every method of construction which has been proved to satisfy the clauses in their byelaws; on the understanding that, on publication, these instructions could be taken as written-in to the byelaws of all those local authorities who have accepted the new model. By this means architects and clients would know where they stand and local administrators would be relieved of responsibilities which they cannot bear. As an example of the sort of thing we mean, we would like to quote the admirable Memorandum on Structural Fire Precautions for Houses published by the Department of Health for Scotland,* a document which shows by means of good, clear drawings precisely what methods of construction satisfy this most intricate section of building law. It shows perhaps a return to "rule of thumb": but there is nothing the matter with this, provided the thumb is mid-twentieth century and not Victorian.

* HMSO. 3s.



There should be a resounding cheer from the younger and brighter spirits in many local authority architect's offices for some remarks made by Richard Edmonds, the chairman of the LCC Town Planning Committee, at the Town and Country Planning Association last week. And, if they really believe in giving youth a chance, there should be a cheer also from the "Controllers, Valuers, Architects and Engineers" who were asked by Mr. Edmonds not to take his remarks amiss. "In local planning it is perhaps a pity," he said, " that the very bright, brilliant, perhaps brash, but fresh ideas that emerge from

young architects and planners are liable not to emerge at the top in their original form. It is often the fate of the chairman of the committee to see the reports which Valuer, Controller, Architect and Engineer have agreed after endless hours of filleting and discussion. I would very much like to see a time when there could be teams at work which could have their ideas expressed at the highest level within the county authority, and I believe with good will this is a thing that can be brought to pass."

Cynics in local authority offices are wont to observe, when they see the list of credits for a new scheme, either that you have to go to the bottom of the list to find the man who really did the work, or alternatively, that you can't find his name there at all. The LCC, it must be said, goes much further than most in giving credit where it is due, and it has given young architects a chance in housing that they would almost certainly not have had in private practice. In planning, one hears, there is more frustration at the lower levels, and this is probably true of a good many local authority offices. It certainly does not detract from the reputation of the architect to a council to let it be known that he is prepared to give ample scope to design or planning teams to do original work.

NO LEAKAGE ON OVERSPILL

The LCC is being very coy about its plan to build a new town of its own. The project has been discussed informally with the Ministry of Housing and Local

Government. And now the LCC has asked the Minister to bestow upon the scheme his blessing "in principle," and assurances of financial backing. But where is the town to be? Enquirers are told that "no decision has been made ": the scheme submitted to the Minister is "entirely abstract." Nevertheless, the LCC's officials have been scouring the country from Land's End to the South Uist rocket range, and it is inconceivable that the Minister would be asked to approve the idea " in principle" if the LCC had not fixed on one or more definite sites which it considers suitable. What about the legal difficulties? ASTRAGAL'S legal-eagle doubts whether the LCC can build a new town without fresh legislation: but that point, he is told, has not yet been considered. What is the present overspill from the LCC area? The LCC's press office cannot give an accurate estimate, taking into account movements out of the LCC area to new and expanded towns.

The excellent work being done in the LCC Architect's Department certainly encourages the belief that if the LCC ever gets a chance to build a new town, it may make a good job of producing a compact mark 2 design to replace the mark 1 sprawl-towns. But there remains the doubt whether this is the right thing to do: perhaps the LCC's covness covers up a similar doubt.

THE TCPA IN A TANGLE

No-one can say the Town and Country Planning Association are not persistent in their propaganda on behalf of low-density housing. Their usual technique is to seize an opening provided by some mention of housing in the press to start a correspondence —putting forward their own views which are not always relevant to the original point. This is a perfectly legitimate propaganda method, but sometimes it leads to odd situations.

For example, an article appeared some while ago in *The Times* about a rather interesting recent housing scheme at San Basilio, on the outskirts of Rome. A density figure was given that was obviously an error, judged simply on the basis of other figures mentioned in the article. Errors deserve correction, but the TCPA, in the person of their chairman, Sir Frederic Osborn, went



The housing scheme at San Basilio (see "The TCPA in a Tangle").

after this one in a big way. He circulated a letter about it to the various architectural papers containing elaborate calculations designed to prove the erroneousness of this perfectly obvious error, claiming results from his correction that did not follow at all. And now there appears, in the March number of his journal, Town and Country Planning, an article making the same points at even greater length. He complains in both letter and article that The Times couldn't find room for a letter from him about it, but if his letter to The Times made such heavy weather over correcting an obvious error, and drew such irrelevant inferences from it, I am not surprised. The Times has in fact now printed a short letter from him, correcting the erroneous figure, so Sir Frederic has not really much to complain about.

I have looked up the article in *The Times* and find that its chief purpose was to draw attention to the agreeably compact *appearance* of the scheme, which was contrasted with the more open appearance of most English schemes, including the new towns, to the detriment of the latter. It seems to me that the appearance of San Basilio (shown in my picture above) remains what it is, whatever the correct density figure, so that the writer's argument is not invalidated by the error that Sir Frederic makes so much of. But now comes the odd part: Sir Frederic complains that the article was unfair to English architects because it suggested that foreigners can build to a higher density, but surely now that Sir Frederic has pointed out that the density of San Basilio is not so very high—in fact is comparable with some densities used in Britain—that makes it all the more reprehensible that British architects (or the committees that instruct them) can't achieve such a compact appearance.

So it is Sir Frederic who is condemning British architects, while claiming to come to their defence, and the argument of The Times article is strengthened, not weakened. I notice also that the Local Government Correspondent of the Manchester Guardian, in an article last week, fell into exactly the same trap. So did "Pharos" in The density of San the Spectator. Basilio is about 48 to the acre-the same as several neighbourhoods in the new towns. What is the reason for its success in looking like part of a town, while the English examples look like suburbs? I suspect it is partly the excessive road-widths in the latter, which have been foisted on the architects by the engineers and have been regarded everywhere as the inevitable thing, and partly due to the general misunderstanding of planning principlesand of what the public wants-that has been fostered by the Town and Country Planning Association.

RAILWAY HISTORY

America for some reason seems to have a corner in 19th century architectural history; we have our own leading lights like Nikolaus Pevsner and Goodhart-Rendel, but no-one who can hold a candle to Henry-Russell Hitchcock, and even Dr. Giedion, based though he is on Zurich, has obtained most of his opportunities in America, as well as gathering much of his material there. And now comes Carroll Meeks, whose name has hitherto been known only among specialists. He has produced a history of railway stations* that should earn him the gratitude of far wider circles.

Is is a fascinating subject, with an appeal to many besides architects, and Professor Meeks's ability (he is on the teaching staff at Yale University) to disentangle the key examples, the essential influences, from the mass of material available is remarkable. His chronological text casts many revealing sidelights on the difficult problem of engineer-architect relationships and on the evolution of taste.

His fascinating sequence of over 200 pictures is also very revealing and it may come as a shock to Englishmen, who are justly proud of having invented railways, to find for how short a time they hold the stage alone. Prof.

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^{*} The Railway Station: An Architectural History. Architectural Press, 60s.

Meeks illustrates small stations at Baltimore and Lowell, Mass. (see this week's frontispiece on page 416), dating from 1830 and 1835, and among the biggish termini are those at Leipzig (1840—about the same as Temple Meads, Bristol) and the Gare de l'Est, Paris (1847—the same as Euston).

It is depressing to see how few of the large modern stations he illustrates can compare in drama and impressiveness with the old—in fact Rome is the only one, though there are some good small modern stations at Amsterdam.

FACTORY INSULATION

Gerald Nabarro's Bill to ensure that all industrial buildings have a reasonable degree of insulation against heat loss was first announced in the JOURNAL for January 31. It has now had its second reading. Every architect worth his salt will approve of such a measure, and one can only hope that the Bill goes through as quickly as possible. The recent Jaguar factory fire, however, will serve to impress on architects the need to pay particular attention to detailing when insulating a factory. If combustible materials are used for insulation, great care must be taken over fire-stops. But surely the simplest answer is not to use inflammable materials at all when there are equally good and economical alternatives.

TEMPORARY TERMINAL

ASTRAGAL'S eyebrows could not be restrained from giving a momentary twitch when he read about the expenditure of £250,000 on a temporary air passenger terminal in Kensington, to be erected on a platform above the dear old metropolitan railway in the remarkably short space of 141 days. In fact he gave two twitches. One expressed his relief, as he studied the sketch plan published in the daily press, that the building (whatever its merits for speed of construction) is only going to last five years. The other expressed his despair that he has no sooner learned the drill for getting to one temporary terminal than he finds that a new one has taken its place.

The present Waterloo terminal has to be vacated in September, when it is to be demolished to make way for the new Shell building. It is "hoped" (the world is still full of optimists) that before the five years are up the multiplicity of powers-that-be who decide these things will have made up their minds how to transport passengers from London airport to central London, and where to build the permanent terminal to receive them. The plans for London airport were drawn up in 1946: but nobody seems to have bothered much about how to get the passengers into London or out of it. A working party made recommendations several years ago; at the moment the Minister of Transport is said to be considering a survey of a proposed railway extension that would connect London airport with the lines to Victoria. Meanwhile the passengers sit in trafficjammed buses.

REPLANNED AIRPORT?

According to one of our tuppenny contemporaries it may also be necessary to spend another £10 million on replanning London airport, in addition to the £26 million already estimated, because the number of passengers using it has been grossly under-estimated, and the central terminal area is proving too small. The Ministry of Transport refuses to deny or confirm this story. although it does admit that a highpowered committee is now considering the whole future of London airport. All in all, however good the backroom boys may be at making supersonic bangs in the sky, the transport planners seem unable to produce even the mildest pop on the ground-only the clinking noise that prompts a Scotsman to exclaim "bang goes a quarter of a million-in saxpences."

COSTS, ECONOMICS AND PRICES

As one who, in his student days, was shielded from cost questions as from the facts of life (to be learnt "soon enough, old boy . . .") ASTRAGAL was delighted to see—in last week's JOURNAL—that the Birmingham School under Douglas Jones is introducing students to costs.

The editors now tell me they are helping to arrange another—post-graduate —course in co-operation with the Regent Street Polytechnic. It is to be a series of six, weekly lecturediscussions by an impressive list of experts, specially arranged for architects, quantity surveyors and builders as well as for senior students. If you (or your quantity surveyor) want to know more about cost analysis, cost

planning and elemental bills (that sensitive topic), or if you have your own ideas about them, you should go to these meetings.

Since the AJ launched its cost campaign with the 1955 Guest Editors, cost control techniques have become a regular part of professional conversation and have even reached high places. After the British Architects' Conference on Architectural Economics, the RICS set up a panel and the RIBA a committee-on cost research. Then there was that lively meeting at the Building Centre on elemental bills. The builders have had their own Advisory Service and BRS quietly continue their work on the subject-soon to be reinforced, I am told, by an AJ research fellow who will look into the relationship between design and contractors' plant. With luck, costs should reach the RIBA exam. papers one day soon.

MARK LUKE

Lord Luke was even funnier than he meant to be when he proposed the toast, "Illuminated Signs," at the annual luncheon of the Electrical Sign Manufacturers' Association. He said that when he looked at the entries submitted in the Association's sign design competition* he " realized what an effort (my italics) was being made at design." "Designers," he said, " and I include these competitors . . ." Collapse of stout party, known as ASTRAGAL, who was wondering why the Association had spent so much money on a competition which anyone could enter, and why Professor Sir Patrick Abercrombie had agreed to help in the assessing of such a competition. He also wondered why the Association had bothered to employ an architect to provide the buildings on which the amateur signs were to be placed and why the architect, R. W. Summers, had sketched out buildings that were so clearly mere machines for writing on.

SCANDAL IN PORTLAND PLACE

Sorry about the heading, but the Technical Section editor has asked me to catch your eye and to tell you that the Information Centre index for the twelve-month period ending in December last is now available.

ASTRAGAL

^{*}See JOURNAL for March 14, page 413.

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Aesthetic Control

-Your comments on æsthetic control SIR.-Sig.—Your comments on æstnetic control (March 7) were most welcome, as was the speech made by Dame Evelyn Sharpe at the **RIBA**. One of the most depressing aspects of the situation is that the MOHLG, of which ironically Dame Evelyn is permanent secretary, has recently started to dismiss appeals in contradiction of its policy of a short while ago. This means that an architect genuinely

This means that an architect genuinely seeking new forms as honest solutions to current architectural problems (and these forms are desperately needed, especially in housing) must either compromise himself from the beginning, or else inform prospec-tive clients that he cannot accept work, since what he designs can never be built. At this time, with feelings amounting to of the Qucen's Royal Gold Medal to an architect of genius whose work (like that of several other holders of recent years), would certainly not be acceptable to the planning committees, panels of architects, rural district councils and civil servants, whose prejudices, inflated by Act of Parlia-ment into legally enforceable dictums, have reduced English architecture to a level of pettyness and mediocrity.

London.

The Jaguar Fire

COLIN GLENNIE.

SIR.—Many of your readers will have a professional interest in the contribution of the roof construction at the Jaguar factory to the spread of fire, and must have been confused or misled by the conflicting state-ments which have been made on the subject and the lack of any factual description of the nature of the roof construction itself. I think, therefore, they may be interested in the information set out below, which has been compiled from an inspection carried out at the Jaguar factory within 48 hours of the fire.

The fire took place in a factory which was constructed in 1939 when the roof consisted of 5 in. fibre insulating board laid over the supporting steelwork and fixed by a specialist contractor, over which my firm placed the cladding of corrugated protected metal sheets.

During the war twelve bays at the north end of this factory were damaged by enemy action, in which the whole of the fibre board lining in this area was lost and corrugated protected metal sheeting only was restored necessary, fixed hard down upon the as authors when the building was subsequently re-lined after the war, $\frac{1}{2}$ in. natural fibre board was placed *below* the supporting steelwork, *i.e.* 4 in. below the protected metal roof, so creating a cavity roof construction. This was presumably carried out by a specialist insulation contractor. The fire began at the north end of this

area, in a store containing large quantities of tyres and finished components, many of them in wrappings or in cartons, and in-tense heat was generated fairly rapidly. As this reached the underside of the roof lining, the fibre board took light and the flames spread along the roof lining, both in-side the cavity and outside. The heat pro-vided by the burning fibre board 4 in. below set light to the outer cladding of the protected metal sheets, the bitumen coatings of which fell on to the fibre board before the fibre board itself, sagging between its unsupported tees, fell to the ground. Fire spread similarly along subsequent bays at an increasing rate until it reached the thirteenth bay, which had been unaffected by bombing and where the original over-purlin lining was therefore intact. This lining was burned on the underside and became charred, but was not dislodged from the supporting tees and remained in position. The protected metal sheeting above it was unaffected. Here the spread of fire stopped. We know of no factors which account for the sudden stopping of the fire-spread in the roof, except that the roof con-struction reverted to the original form at this point.

It is our opinion that had the building been unaffected by bombing and the original construction remained intact throughout, even with the natural fibre board which was the only material of the kind available at the time the factory was built, the spread of fire in the roof would have been confined to three half bays. Had asbestos-faced insulation board or an combustible building board been available, the spread of fire would have been even less

What, then, are the lessons to be learned from the Jaguar experience? In our opinion, there are three: 1. If fibre board is used to provide under-drawn insulation for a roof, it is important that it should be of the asbestos-faced type which be a close I spread of flame rating which has a class I spread of flame rating An alternative would be to use an incom-bustible building board. Neither of these materials was available at the time the Jaguar factory was built.

2. An under-drawn lining should be placed close to the external cladding so as to avoid the formation of a cavity, along which flame can rapidly be funnelled.

3. The construction should be such that the underdrawn lining is firmly anchored to the cladding material so as to avoid the possi-bility of its falling in a blazing mass and so spreading fire.

These are principles which we have long advocated and practised. C. THAIN.

London.

The Caravan Problem

SIR.—Your suggestion (February 21) that second movable dwellings conference

should be held is interesting, especially as I understand that the Town & Country Planning Association, who sponsored the first one with the Caravan Club, are already thinking alarent the caravan the constant of the second thinking along these lines. The suggestion is certainly worth investigating, though doubt if any of the organizations mainly concerned can today spare as much time as was put into the conference of 1947-9. Some of the subject matter which you

suggest is already under review in another context. For example, extensive inter-change of opinion on amending legislation has been taking place between the Ministry, the local authority associations, the Cara-van Club and the National Caravan Coun-cil over about two years. Last November there was a meeting between the Ministry and the local authority associations, and this month the Ministry is to meet the caravan organizations. For example, extensive intercontext. caravan organizations.

In the rest of your comment I am puzzled by your defence of the limited period of planning permission. One understands planning well how this custom arose and perfectly why the authorities tend to be nervous of this development, but understandable reasons for the policy do not dispose of this reasons for the policy do not dispose of the difficulty that the policy itself frustrates an important aim of planning, which must be to see that development is on the best lines. Perpetual planning permission is not the only possible answer to this difficulty, but so far the planning authorities have almost invariably refused to recognise the validity of this complaint by developers.

W. M. WHITEMAN.

London

How Measured Rates May Be of Value

SIR.—In your review of Spon's Architects' and Builders' Price Book (November 29, 1956) you queried whether a unit price for, say, internal partitions derived from a cost analysis could be compared with the rates for different kinds of partitioning given in the latest edition of Spons. As a somewhat similar suggestion appears to be envisaged by your correspondent E H Boobwer by your correspondent, E. H. Boobyer (January 10, 1957) in relation to the JOURNAL'S "New Look" Measured Rates and Market Prices, perhaps we may be permitted to comment.

The answer to your reviewer's specific query must be, no. An elemental cost is the sum of its component costs, expressed as a rate per foot super of the floor area. There is, as yet, no generally accepted standard which lays down the components to be allocated to a particular element, but MOE Building Bulletin No. 4 suggests that the components of the element "internal parti-tions" should be "partitions, glass screens, revolving and sliding doors used for the division of rooms, lintols over openings, bor-rowed lights." No facts of value can be obtained by comparing a figure derived from the total cost of these components for a particular job, with the Measured Rates for a particular type of partition, any more than could be from equating the cost of unequal quantities of "vegetables" with the price of carrots

Although a published elemental cost cannot be fully broken down, without a great deal more information than it appears practicable to publish, the cost of an element of a job on the drawing board can be built up and it is here that the Measured Rates should. we hope, prove to be of value. An elemental cost compiled in this way may be compara-ble with one for a previous job, providing the number of components is similar and allowance is made for date of tenders and differences in such things as locality, wall/ floor ratios and heights.

DAVIS, BELFIELD AND EVEREST. London.

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RIBA

First of Annual Discourses

NEW

Alvar Aalto, this year's RIBA Royal Gold Medallist, will give a talk at the RIBA headquarters on April 10, at 6 p.m. This will be the first of the "RIBA Annual Discourses by an outstanding personality in world architecture." An exhibition of Finnish architecture will

An exhibition of Finnish architecture will be held at the RIBA, in connection with the Discourse. It will be open to the public from April 11 to May 2 (10 a.m. to 7 p.m., Mondays to Fridays. 10 a.m. to 5 p.m., Saturdays). The Exhibition will be closed from 12.30 p.m., April 18, and will re-open the following Wednesday, April 24, at 10 o'clock.

COST TALKS

A Six Lecture Course

The JOURNAL is helping the Regent Street Polytechnic School of Architecture to organize a course of six lecture-discussions on "Cost Analysis, Cost Planning and Elemental Bills of Quantities." These lectures will be given at the Polytechnic at 6.30 p.m. on April 30, May 7, May 14 and 28, and June 4 and 18. They are intended for architects, quantity surveyors, builders and students who would like to learn more about the techniques discussed or to contribute their own ideas. Applications (enclosing 11s. registration fee) should be sent to The Registrar, The Polytechnic, 309, Regent Street, W.1. More details will be found in the diary opposite.

PLANNING A Minister Wanted

The appointment of a Minister of Planning, second in importance only to the Prime Minister, superior to the Chancellor of the Exchequer and with powers over other Ministers comparable to the Minister of Ministers comparable to the Minister of Defence, was suggested by Richard Edmonds, chairman of the LCC Town Planning Committee, at the Town and Country Planning Association last week. He was taking part in a debate with Peter Self, of the Economist, on planning in the London region. Sir Patrick Abercrombie, who was in the chair, opened the meeting with the observation that the regional joint planning committees envisaged by the 1947 Town and Country Planning Act had never come into existence, with the result that regional planning had gone back when compared with the set-up under the 1932 Act. Mr. Self launched a sweeping attack on the LCC as "a bigger anachronism than the House of Lords," because its boun-daries were those of the built-up area a century ago, and marked neither the heart nor the totality of London. Logically, he said, the LCC should be abolished and there should be a "greater purpose" authority for the London area. But this was too big a pill to swallow, and was probably impracticable. He fell back on the suggestion that all planning authorities within 60 miles of the centre of London should form a Joint Planning Board, whose major planning decisions would be binding on the authorities. There should also be a Development Corporation to preserve the green belt and relieve pressure on London by expanding several new towns more than 30 and less than 60 miles from London.

Mr. Edmonds contended that, thanks to the system of consultation with the Metropolitan Boroughs, the LCC worked very well despite its creaking machinery. Regional planning, as advocated by Mr. Self, was, he thought, a fallacy. A London Regional Planning Authority would be a middle tier thrust in between the planning authorities and the Government, creating still further problems and frustrations. He envisaged a Minister of Planning with overall responsibility over satellite Ministries, which would include the Board of Trade (in its dealings with home affairs), Agriculture and Education. Such a Minister of Planning, with the highest authority and the money to do the job, could create the setup which both he and Peter Self wanted. He would not plan buildings or even precincts, but would take the great overall planning decisions, such as the siting of a trail link with London airport, and the expansion of existing towns.

SCHOOLS

Fall in Costs

Since 1949 the progressive reduction in cost per school place has saved about £85 million, or about £200 million if the general rise in building costs is taken into account. Giving these figures in the Commons last week Sir Edward Boyle, the Parliamentary Secretary to the Ministry of Education, said that the average cost of a primary school place had fallen from £195 to about £150 between 1949 and 1956, and the average cost of a secondary school place had fallen from £324 to about £260. Sir Edward also announced that the school building programme for 1957-58, which had been fixed at £50 million, is to be increased to £55 million, and that this figure will be maintained in 1958-59. It is understood that the intention behind

It is understood that the intention behind the increase is not to enable local authorities to keep pace with rising prices, but to increase the number of places being provided. In fact, despite the tendency of prices to rise generally, in the last two months there has been a tendency in some parts of the country for contractors to put in school tenders at lower prices. It is thought that the credit squeeze has forced a number of builders, who have been profitably engaged in speculative work, to tender for schools which they have avoided in the past because the prices were too keen. Certain authorities have now been told by the Ministry that a number of urgent projects may be brought forward and included in the 1957-58 programme.

It will be recalled that in 1955-56 local authorities were unable to take full advantage of the programme of £10 million given to them, and a backlog of £30 million of work authorized but not started had accumulated at the end of the year. The Ministry now seems confident that the backlog has been overtaken, and that the authorities will be able to start an additional £5 million of work in 1957-58.

TIMBER

TDA Developments

The Timber Development Association has just issued a free booklet, *Design in Timber*. In it nearly half the illustrations, including all the large-scale works, are of buildings abroad.

The reader's first reaction to this will be that timber is obviously used more where it is most plentiful and cheap. But the Timber Development Association says that there is now no shortage of timber in this country, and that whilst its cost has increased to a greater degree than other structural materials from what it was before the war, it is still cheap for the purposes to which it is best suited. The Association has concluded that architects are discouraged only by the difficulty of obtaining structural designs (compared, say, with the ease with which designs may be obtained for steelwork) and by lack of knowledge of firms who are willing and capable of manufacturing timber structures designed to make use of the new techniques.

To overcome these difficulties, the Timber Development Association has selected and published a list of 67 manufacturers to be known as "TDA Approved Manufacturers." All these firms have undertaken to provide designs and estimates for engineering timber structures and components, though not all are yet capable of carrying out lamination. Design and workmanship will comply with TDA standards (which accord with Codes of Practice where they exist) and will be liable to inspection. Since only a few of the firms now maintain design staffs the TDA has undertaken to prepare designs for the others or to have designs prepared by independent consultants. Several firms in a particular area might be asked to submit tenders in competition, and therefore might be quoting on the same design. There is no intention, however, to use the organization for price fixing.

These arrangements are conceived as the setting up of a new timber engineering industry. Certainly they will be most welcome if, as it is claimed, timber structures of certain kinds prove to be very economical. It is suggested, for instance, that timber frames or trusses for single-storey buildings over about 40 ft. span are cheaper than steel, reinforced concrete or aluminium trusses. Light weight in relation to stiffness is said to give timber an advantage when used in trusses for big spans. Furthermore, timber requires practically no maintenance, especially if it is protected against decay by preservatives.

Perhaps it would pay the timber trade to publish a pamphlet on fire dangers. They have arguments which, though not generally known, go so some way towards reassuring those who feel particularly concerned about the real dangers of fire. It is stated, for instance, that exposed timber trusses whose members are not less than 2 in. thick, have a longer fire endurance than either unprotected steel or aluminium trusses. For comparison, if the fire endurance for a timber structure is 30 minutes, it would be about 15 minutes for steel and about 4 minutes for aluminium. This is because the metals rapidly lose strength with the increase in temperature, whereas timber loses strength by loss of material as it burns away, a pro-cess which is relatively slow. In the British Standard fire test, in which the temperature increases to 800° C. in 20 minutes, wood loses only 1 in. thickness in 40 minutes. The practical advantages of this are that it gives longer time for escape and for fire fighting before the collapse of roofs. These advantages derive from the thickness of the timber used. A ceiling of thin untreated match-boarding or fireboard can easily catch fire and would spread the flames very quickly.

Another interesting argument concerns the fire insurance of storage buildings. Where large quantities of combustible material are stored, the main insurance is for the contents and the fire resisting qualities of the building are, from this point of view, of little importance. Because of this, timber is often stored in timber buildings. On the other hand, it would perhaps be adding unnecessarily to the fire risk to use timber buildings for storing only non-combustible material, although it is emphasized that in most instances fires are started in the contents of buildings rather than in the fabric itself, and contents almost always contain some combustible material.

The conclusion one reaches is that the new methods of design and production, of which Mr. Reece, the Director of the TDA, has been a constant protagonist, could now be used to much greater advantage. By publishing their list of approved manufac-turers and making it easier to obtain engin-eering designs, the TDA has given greater encouragement to arcfiltects to think more often, in terms of timber structures.

LIGHTING

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Luminous Features

The architect who goes into industry is still quite a rarity and if he is articulate he usually has something of interest to pass on to the rest of the profession. Such a person is Derek Phillips, who has been for some time in one of the lighting subsidiaries of A.E.I. On March 14 he gave the second talk in the current series for architects at the Lighting Service Bureau. Under the tille of "Lighted and Luminous Features" he gave a useful survey of the techniques of lighting by screened or recessed sources, and by diffusing materials over either part or the whole area of ceilings. He discussed the design factors involved, the materials and methods which may be used and the provisions that should be made for main-tenance. tenance.

With slides of a number of examples ranging from the U.S. and Italy to English Shoeshop Modern, he showed the potentialities of the methods he had described. By his terms of reference Derek Phillips could only touch on the factors by which the architect could decide whether or not to employ such systems; how much they cost, for instance, and how far they were com-patible with the principles of good lighting, bearing in mind the functions of any particular interior.

This was unfortunate because it is pre This was unfortunate because it is pre-cisely on these points that architects usually seem most in doubt. It is also on these same issues that the relative merits of the different methods can most easily be assessed. Mr. Phillips enlarged on the idea of controlled surface brightnesses as an integral part of the æsthetic treatment of both interiors and exteriors. This is a use-ful attitude of design, but a rational basis for it would have made the talk more valuable to the architects present to the architects present.

BUILDING CENTRE

Forum on Asbestos Cement Goods

The Technical Editor writes: Although last week's Building Centre Forum was the worst-attended in the series (architects where were you?) it was perhaps the most satisfactory one so far. More of the right questions were asked, fewer of them were disregarded, more information them were disregarded, more information came to light, and we were made to feel that genuine contact was made between architect and manufacturer. That these things were so was mainly due to the good sense of the main speakers: the Scottish architect, Thomas Mitchell (who is also, incidentally, vice-chairman of the RIBA's Science Com-mittee) and Arthur Grayson, of Turners Asbestos Cement Co. Thomas Mitchell began by making a sharp distinction between the moulding section of the industry and that concerned with sheet-ing: pointing out that the former had indeed

ing; pointing out that the former had indeed been on its toes and quoting as evidence of this the new revision of the British Standard on Asbestos Cement Soil, Waste and Ventilating Pipes and Fittings (BS.582:1957 -not yet reviewed in Information Centre!)

Sheeting, however, which provides the bread and butter of the industry, he roundly called a bodge: wind whistled through the gaps bea bodge: wind whistled through the gaps be-tween sheets and the accessories were clumsy and out of scale. As an example he described what happens when you insert a row of windows in a sheeted façade: with the present repertoire of accessories there was no alternative but to summon the joiner, the carpenter and the plumber and rest them to make a semarate job of each get them to make a separate job of each window. Answering for the manufacturers, Arthur Grayson agreed that there was enough truth in this to make the industry feel uncomfortable but that it was, in the and the fould of the architect Whom schertsce enough truth in this to make the industry feel uncomfortable but that it was, in the end, the fault of the architect. When asbestos cement sheeting first came on the market before the first world war it figured as a "cheap" material, and for this reason the architects assumed that it was short lived and therefore unworthy of their serious attention; and ever since the trade had experienced the greatest difficulty in getting any worth-while architect comment. At this point the chairman, Gontran Goulden, chipped in to remark that every industry which had taken part in these Forums had made precisely the same complaint—as indeed they had. Taking this up, Thomas Mitchell said that it was no use for an industry to expect worth-while casual com-ment but that firms *must* commission an ment but that firms must commission an architect to design their whole range—as had in fact been done in Germany. Later in the evening we were given to understand that at least one firm was earnestly considering this.

A great many matters of detail were dis-cussed in the course of the Forum: the failure of integral colouring of sheets, the probable success of glazing, the evidence that the life of asbestos cement structures was limited by the life not of the asbestos cement but of the metal fixings, the clumsi-ness of rainwater heads and the precise sense in which the material meets the fire regulations. Altogether it was a very worthregulations. Altogether it was a very worth-while occasion.

OBITUARY

7. C. Whettam

Charles Whettam, who for a number of years had dealt with the AJ's questions and answers column, died in a London hospital last week. Mr. Whettam was an architect last week. Mr. Whettam was an architect of wide practical experience. After long service in the Civil Engineer-in-Chief's Department at the Admiralty, in 1943, on his retirement, he joined the staff of the Building Centre where he later took charge of the Records Section. Mr. Whettam was educated at Bishop Wordsworth's School, Salisbury, and retained his interest in the school throughout his life. Born in Wey-mouth, he was articled there to A. J. Bennett, M.S.A., and entered the Civil Engineer-in-Chief's office as architectural assistant, HM Dockyard, Chatham, in 1904. He worked on

Chief's office as architectural assistant, HM Dockyard, Chatham, in 1904. He worked on designs for the completion of the RN Barrack's Chapel there and on the renova-tion of the Dockyard Chapel. Other work at Chatham on which he was engaged included the electrotherapeutic department and sick bay quarters at the RN Hospital. Later, at Portsmouth Dockyard, Mr. Whettam worked on extensions at the RN Hospital, Haslar, and the chapel at the RN Gunnery School at Whale Island. More recently, working in connection with More recently, working in connection with the Engineer-in-Chief's Head Office, he designed buildings for experimental radar stations. He also worked for a long time with his department's testing laboratory and gained in this way a specialized knowledge of building materials and, in particular, of flooring. He retired from the Admiralty as flooring. He retin Senior Architect.

At the Building Centre Charles Whettam was a most loyal and devoted colleague, and in spite of his years put tremendous energy and concentration into the tasks

which he undertook. Indeed, he very fre-quently had to be restrained from doing too much. He had a most methodical mind and much. He had a most methodical mind and this combined with a great ability to take pains made him an ideal organizer of records and other collated information. Years of association with the Royal Navy had instilled in him a high sense of duty. Apart from his work his main interests were the Church, and in particular the John Keeble Church at Mill Hill, where he took part in all its activities, including the local Scout troop which under his guidance ran

Scout troop which under his guidance ran its own printing works. He himself was clever with his hands and took particular delight in such things as repairing books and making neat covers and bindings for

He was always cheerful and had a splendid sense of humour; it was a pleasure to work with him and he will be greatly missed.

G. G.

DIARY

How to Light Industrial Buildings. 3rd Electric Lighting Conference. Discussion opened by E. O. Jefferies Mathews. At the Lighting Service Bureau, 2, Savoy Hill, W.C.2. 6 p.m. MARCH 21

Are Science and Art Divergent? Talk by Maxwell Fry. Chairman: Sir Alexander Carr-Saunders. At the ICA, 17, Dover Street, W.I. 8.15 p.m. Members 1s. 6d. Guests 3s. MARCH 21

Exhibition of French Architecture. At the RIBA, 66, Portland Place, W.I. Monday to Friday, 10 a.m.-7 p.m. Saturday, 10 a.m.-5 p.m. UNTIL MARCH 23

Discussion of Projects. 1, Long-term proposals for the town centre for Maid-stone. 2, Redevelopment of Soho. Joint annual meeting of the Diploma students of the Department of Town Planning, University College, London, and the HC Tuesday Discussion Meeting Audience. Chairman: Professor Sir William Holford. At the HC, 13, Suffolk Street, S.W.1. 6 p.m. MARCH 26

Manufacturers' Trade and Technical Literature. Forum with Edward Mills and Ronald Leather. Chairman: Gontran Goulden. At the BC, 26, Store Street, W.C.1. MARCH 28 6 p.m.

Housing in the Middle East. Talk by Max Lock. At the HC, 13, Suffolk Street, S.W.1. 6 p.m. April 2

Office Blocks and the Multivalence of Architecture. Talk by Erno Goldfinger. Chairman: Howard Samuel. At the ICA, 17, Dover Street, W.1. 8.15 p.m. Members 18. 6d. Guests 3s. APRIL 2

Protection and Repair of Historic Buildings. General Course at York Institute of Archi-tectural Study, York. APRIL 2-11

The Care of Churches. Course at York Institute of Architectural Study, Micklegate, York. APRIL 11-16

York. APRIL 11-16 Cost Control in Building. Course at the Regent Street Polytechnic School of Archi-tecture, in collaboration with the AJ. 1, The Need for Cost Control, by J. M. Austin Smith, A.R.I.B.A. (April 30). 2, Cost Analysis, by James Nisbet, A.R.I.C.S. (May 7). 3, The Elemental Bill of Quantities, by Clifford Nott, A.R.I.C.S., and Ivan Tomlin, A.I.B.E. (May 14). Cost Planning I, by G. Grenfell Baines, A.R.I.B.A., A.M.T.P.I. (May 28). 5, Cost Planning II, by John Wilkin-son, A.R.I.B.A., and Arnold Towler, A.R.I.C.S. (June 4). 6, Symposium, with all speakers (June 18). All lectures start at 6.30 p.m. Applications (enclosing 10s, registration fee) to the Registrar, The Polytechnic, 309, Regent Street, W.1.

CRITICISM

What readers think

Last week Kenneth Wood replied to J. M. Richards's article on his Church hall at Tolworth (published in the JOURNAL for March 7). We publish below contributions to the discussion from readers, together with a reply from Mr. Richards. Next week we shall publish the third article in the series—on a church at Basildon new town, designed by Burles and Newton.

SIR,—In his criticism of the church hall at Tolworth, Surrey, designed by Kenneth Wood, J. M. Richards makes several very pertinent points. His comment that churches and buildings of a similar nature must be designed and built with special consideration for the future maintenance of the structure underlines a very real problem.

Many of the voluntary bodies erecting buildings of this kind have great difficulty in raising the initial funds and can seldom afford to be involved in continuous expenditure. Architects, therefore, have a very real responsibility to ensure that the buildings they design will remain in good condition for as long as possible without continuous maintenance. From a study of the photographs and drawings of the hall at Tolworth one would imagine that the building can be very easily maintained.

Two points arise, however. One is the large panes of glass which Mr. Richards criticizes. These are likely to be a source of danger and subject to damage in a hall which will certainly be used for all kinds of activities, including indoor games, played by energetic scouts or youth groups. Replacement of these panes of glass, which from their size would appear to be plate glass, would inevitably be an expensive matter. At the same time they can also be criticized from another point of view in that they certainly provide too much daylight and, as the critic suggests, will need to be curtained to give a sense of privacy on many occasions,

It would appear to be reasonable to suggest that the lower level of the large windows could easily have been glazed in a coloured opaque material, particularly as a proportion of the glazing is already screened by radiators which can be clearly seen in the photographs.

It seems unfortunate that such dull and uninspired photographs should have been selected for this review. No doubt the rather bleak appearance of the building will be improved when landscaping is carried out on the ground adjacent to the terrace, and this will not only improve the appearance of the building but make the terrace a less public spot, which with proper tree planting could become a very pleasant extension to the hall, even though it is on the north side of the building.

London.

SIR,—I fail to see how Mr. Richards can begin to criticize a building which is in fact incomplete. From the photographs is is obvious that landscaping has not as yet been started, for, with intelligent positioning of trees and shrubs, this building could blend reasonably well with the surrounding land and adjoining buildings. At present it is no more than a well-proportioned box protruding from the ground; and this planting could easily give the required privacy which is obviously desirable with such an expanse of glass.

May I add that a few interior views would have been welcome.

STEPHEN W. GREENBURY, A.R.I.B.A.

EDWARD D. MILLS, F.R.I.B.A.

London.

SIR,—In addition to the detailed factual criticism, which appears to be the basis of J. M. Richards' articles, I submit that it would be of interest and, perhaps, some help, if a paragraph of criticism of "pure design" could be added.

For example, what are Mr. Richards' views on the scale of the Tolworth church hall? He comments on the scale of the existing church but (intentionally?) makes no reference to the scale of the new building.

JOHN D. MAIDMENT, L.R.I.B.A.

Sheffield.

J. M. Richards writes:

I agree with Mr. Mills about the building, which is natural seeing that he agrees with me. He also raises the somewhat difficult problem of landscaping; so does Mr. Greenbury. I think the kind of week-byweek criticism the JOURNAL is trying to establish must deal with buildings soon after completion; in any case, how long should the criticism wait for planting to grow up? Trees take years. Mr. Greenbury also mentions the interior. I described it and implied that it was less interesting than the exterior and had to leave it at that. Space prevents everything being illustrated.

In answer to Mr. Maidment: how difficult it all is! I was being accused of too much visual criticism, and now here's a plea for criticism of "pure design." My aim is to provide both. I think the scale of Tolworth church hall is fine.

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BUILDINGS IN THE NEWS

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Secondary School at Sydenham

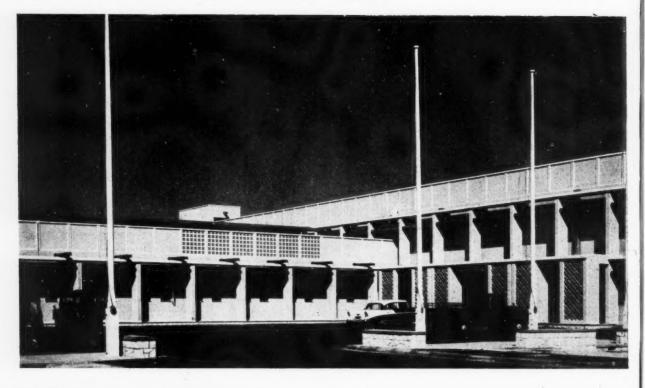
The Sydenham Secondary School (for 1,300 girls) in Dartmouth Road, S.E.26, which was recently officially opened, will be cost-analysed in a later issue. It was designed by Basil Spence and Partners for the LCC; the consulting engineers were: structural, W. S. Atkins and Partners; heating, A. F. Myers and Partners, and electrical, J. Rawlinson, chief engineer, LCC. The quantity surveyors were Reynolds and Young. This supplementary building provides additional places to an existing girls' school: the area of the site has been increased from 5.87 acres to 6.95 acres. In order to preserve the maximum area of open ground space on a comparatively-restricted site, classrooms were planned in a compact sixstorey block, one wing of which is seen, left. This block is E-shaped on plan and is connected at one end to a three-storey administrative block. The classrooms have been erected at the lower end of the site, which has a fall of 22 ft. from west to east over the area occupied by the new buildings. The total building cost on tender was £316,757; nett cost per place £253° The general contractors were Lavender, McMillan (Contractors) Ltd.

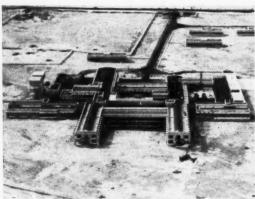
Offices in Fleet Street, E. C. 4

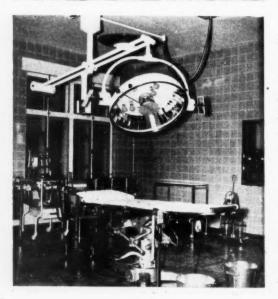
Hulton House, the new headquarters of Hulton Press, Ltd., is the first building to be erected in Fleet Street since the last war. The area of the site nearest to Fleet Street was occupied by Andertons' Hotel, which was demolished in 1939, and the rear of the building has been erected around three sides of Johnson's Court. Hulton House, which provides 115,000 sq. ft. of office space on a site of three acres, was designed by Arthur S. Ash. The interior of the main entrance hall, right, was designed by J. Niekrazs. The general contractors were Rowley Bros. Ltd.



BUILDINGS IN THE NEWS: continued





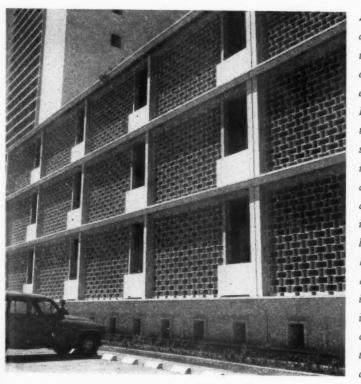


State Hospital at Doha

The 130-bed State Hospital at Doha in Qatar, in the Persian Gulf, was designed by John R. Harris, who won the international competition in 1953. The winning design (AJ, September 17, 1953) was executed without major alterations. The main entrance is shown above, and an aerial view facing south, left. Exceptionally difficult site conditions arose from the high temperatures (up to 118° F.), lack of water, and the long distances from labour and materials. Local soft quarried limestone and fine sand were used, but almost all other materials had to be imported. The hospital was constructed with a steel frame (it was the first framed building in Doha), locally-made sand block panel walls, and prestressed concrete floors having an imported prestressed tile plank. The hospital was built in $2\frac{1}{2}$ years, the construction in this short period calling for a high degree of site organization. Services include full air conditioning for the main building, with independent plant for the theatres (left), and refrigeration, cooling and ventilation plants for food, drinking water and other services. Brackish water is used for flushing and fire fighting; imported fresh water for all other purposes. Many of the single-bed wards are lit by reflection from the verandas, an arrangement that seems to be working successfully. Free treatment will be provided for all in need. The hospital, which brings modern medical services to a country that had none, was opened by the Ruler of Qatar in February, 1957. The architect in charge was S. R. Aston; resident architect, R. S. Mortimer; resident engineers, E. G. Robins and A. Piatowski; civil engineers, Scott & Wilson, Kirkpatrick & Partners; quantity surveyors, Widnell & Trollope; general contractor, Darwish Brothers, engineering department.

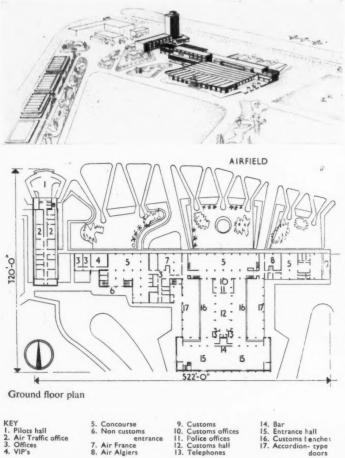
MAISON BLANCHE AIRPORT BUILDINGS AT ALGIERS





Although the Maison Blanche airport, Algiers, was built as recently as 1953, it soon became obvious that it was inadequate for the traffic, which has now reached a flow of 450,000 passengers a year. It was decided to rebuild it entirely, and the new airport buildings, designed by Marcel Lathuilliere and Nicolas Di Martino, were completed at the end of last year. The new buildings consist of a threestorey air traffic control building with control tower, illustrated above with detail of the east facade on the left, a passenger terminal building, security building, emergency centre, and goods traffic buildings. The passenger terminal is a long rectangular block, rising to four storeys, with a large customs hall and main entrance hall two storeys in height projecting on the north side, from which they are approached by passengers arriving at the airfield. There is a separate, smaller, entrance hall for passengers on internal flights who do not have to go through the customs. Departing passengers pass in a straight line through the main entrance hall to the customs hall, which can handle four incoming or outgoing planes simultan-

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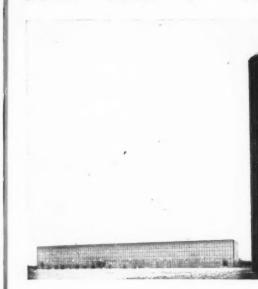
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- 5. Concourse 6. Non customs entrance 7. Air France 8. Air Algiers
- 14. Bar 15. Entrance hall 16. Customs tenches 17. Accordion- type doors

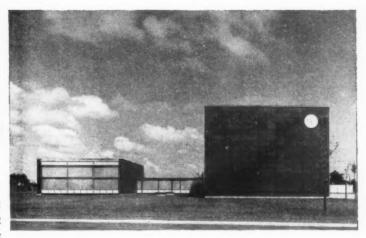
eously. Beyond this is the concourse where passengers wait for their flight to be called. Incoming passengers pass through the same accommodation in the reverse direction. Various offices are situated on the first floor. There are two restaurants, for customs and non-customs passengers, with the kitchen in between. On the third floor there is a large waiting room, and a terrace overlooking the airfield. The emergency block contains standby generators. Water is supplied from a 180-ft. high water tower. The goods traffic buildings are steel-framed hangars, the other buildings have reinforced-concrete frames with brick infilling. The control tower stands on 44 reinforcedconcrete piles driven 25 ft. into the ground because of the extremely poor sub-soil. The other buildings rest on concrete foundations sunk some 15 ft. into the ground. The terminal roof was entirely fabricated in concrete. The reinforced concrete beams 90 ft. long were poured on the site and hoisted into position. The prefabricated roof slabs are 16 ft. $2\frac{1}{2}$ in. by 3 ft. $2\frac{1}{2}$ in. The columns in the customs hall were also prefabricated and installed when completely finished. The terminal building has metal accordion-type external folding doors throughout, so that in hot weather they can be opened to provide the maximum ventilation. Below, a close-up of the main entrance from the south-west.

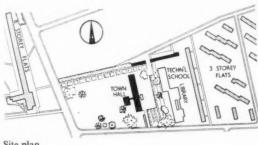


TOWN HALL AT RODØVRE, COPENHAGEN, DENMARK



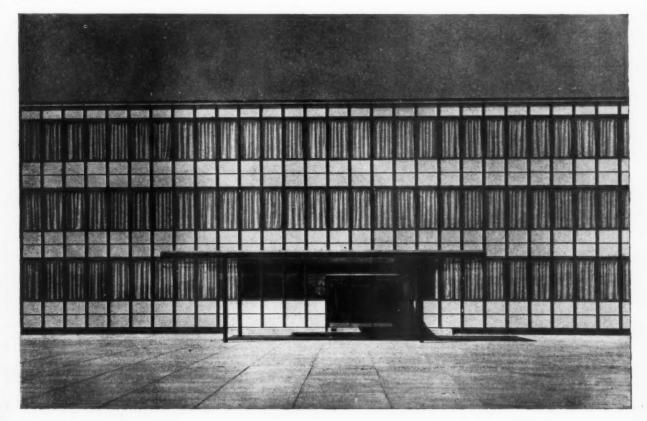
In the town hall at Rodøvre, a suburb of Copenhagen, the Danish architect Arne Jacobsen has achieved a clean design of great simplicity and flexibility. The building is in two parts: a rectangular 3-storey block 90 metres (295 ft. 3 in.) long for all the municipal offices, with a basement, connected by a corridor to a single-storey pavilion at the rear (below). This contains conference and committee rooms away from the noise and bustle of the main





building. The steel and grey transparent glass panels of the curtain walling, seen above left on the east facade and in the close-up of the main entrance (below), contrast sharply with the black Solvag marble of the gable walls

Site plan



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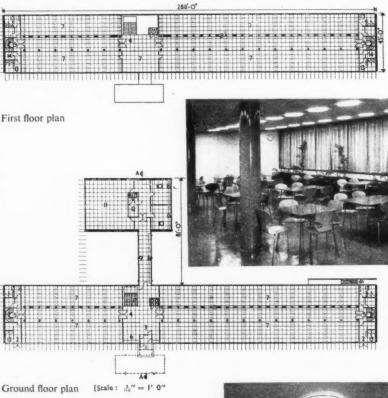
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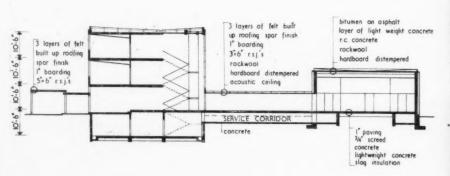
the main

and of the longitudinal walls of the conference pavilion. On the right of the photograph of the main block (page 429 top) is the chimmey of the boiler house which is to heat the entire town centre, including the town hall. The adjacent residential area has also been designed by Jacobsen. The total floor area is 58,100 sq. ft., of which 3,200 sq. ft. are in the conference pavilion. Staff cloakrooms, bicycle store, record storage, public lavatories and the ventilation and lift machinery are in the basement. The main offices used by the public are on the ground floor. The mayor's office is on the first floor, together with some of the principal administrative departments, while the second floor contains all the technical departments, including the engineer's and the architect's offices, canteen, councillors' dining room and the civic reception room. Communication between the floors is by two lifts and the striking steel staircase with toughened glass balustrades (right). This staircase was described as a Working Detail in the JOURNAL on December 13, 1956. There are also a lift and a circular concrete staircase at each end of the building for office inter-communication. The main building has been designed to



make it possible to add a fourth storey without causing too much inconvenience to the work of the municipal offices, and to rearrange the internal office partitions and services with the utmost flexibility. This has been achieved by supporting the structure from two rows of r.c. columns flanking the central corridors, from which prefabricated floors are carried on cantilevered girders. The columns are shown in the photographs of the restaurant, right (in which the slope of the ceiling following the form of the cantilevered girders is noticeable), and of a corridor (below right). Apart from the concrete foundations, basement walls, gable walls and the transverse walls of the main staircase well, practically all the building elements have been prefabricated for dry assembly in or about the building. The method of assembly is illustrated and described on page 432. The basic planning module is one metre (3 ft. 31 in.), and it is possible to rearrange not only the office partitions but also the ventilating system.

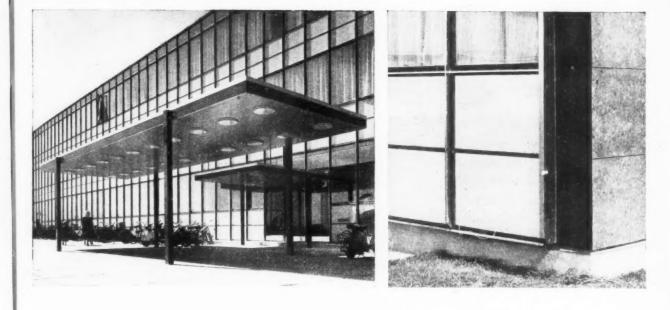




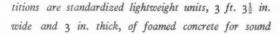


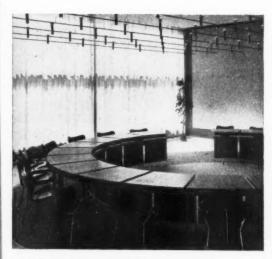
The Architects' Journal for March 21, 1957 [431

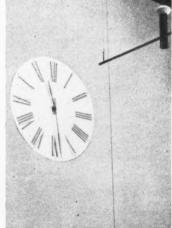
DENMARK, continued



radiators and electrical installations, freely at 3 ft. $3\frac{1}{2}$ in. intervals. For ease of movement the prefabricated par-





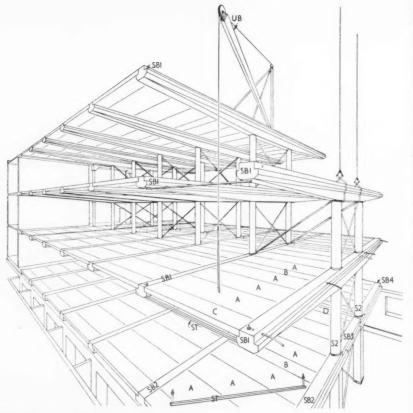




the close-up abore moniously into a main facade. (A the canopy appear March 7.) The o this page show: the council channel clock face in the with close-up of D left, the marrie left, settee in showing the flat marble, which it hall and the count in general are vit on the town hall 1954 and the but in April 1956.

insulation. Double partitions are provided for the offices of all senior officials, and ceilings are clad with acoustic panels. Externally, the basic planning module is expressed in the width of the in-filling panels, of stainless steel and grey transparent glass (above right). The free-standing canopy at the main entrance, seen in the close-up above left, fits harmoniously into the pattern of the main facade. (A Working Detail of the canopy appeared in the AJ for March 7.) The other illustrations on this page show: extreme left, above, the council chamber; left, above, the clock face in the council chamber, with close-up of light fitting; extreme left, the marriage register office; left, settee in the main hall, showing the floor in Norwegian marble, which is also used in the hall and the council chamber. Floors in general are vinyl slabbed. Work on the town hall was begun in June 1954 and the building was occupied

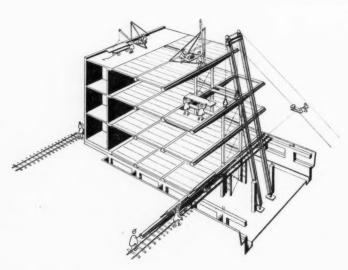
Structural details: apart from the basement tanking and piers, the end gable bays and the central staircase, which are in-situ concrete, the structure of this building is wholly composed of precast concrete units. The erection is as follows. On the completion of the basement and the end cross wall " cage," the crane "UB" jib is erected on the roof of the cage and construction proceeds down the length of the building, one bay at a time and completing each bay up to roof level before starting the next. The sequence of each bay cycle begins with the transport of beams SB2, SB3 and SB4 on a rail



Sketch showing method of construction

conveyor to a point where they can be hoisted in position by the double mast crane. They are positioned by means of trammels (ST) fixed to the girder of the previous section and are wedged, centred and grouted. While this operation is going on, the ground floor slabs are hoisted up by the jib crane and are stored at first floor level in the last bay to be completed. As soon as the beams are levelled and

secured, floor slabs C, B and D are positioned by means of the jib crane and are centred by tubes passing through holes in the beam and the slab. The A slabs are then laid in between and grouted. Meanwhile the two columns S2 and the single beam SB1 (which passes through the full width of the building) are lifted in position by the double mast crane, wedged, centred and grouted, and



are temporarily braced against each other and against the last completed bay. The girder is held in position by means of trammels (ST). During the latter part of this operation the slabs for the floor above are being raised and stored by the jib crane and the cycle is ready to begin again. When all the bays have been completed between a gable section and the central staircase, cables are passed through the ducts in the slabs C, B and D and tensioned.

Left: isometric projection showing method of construction

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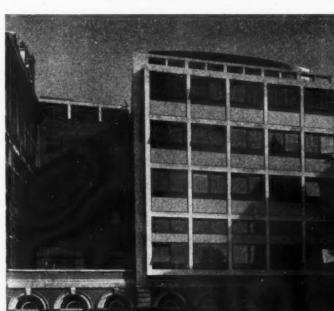
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Leslie G. Creed designed this building, for which Sir William Holford was the consulting architect, as the first stage of a large-scale rebuilding programme for St. Thomas's Hospital, which was published as a project in the JOURNAL on July 30, 1953. The east facade on Lambeth Palace Road, above, is completed by a sketch to show how it was intended ultimately to form part of a complete new elevation to the hospital which is nearly 1000 ft. long. The illustration, left, shows the west facade facing the river Thames. The existing basement







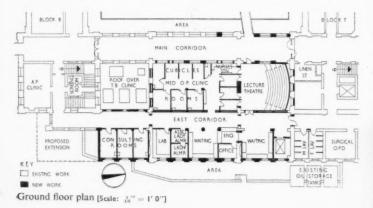
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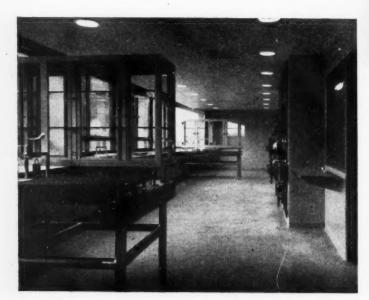
BLOCK

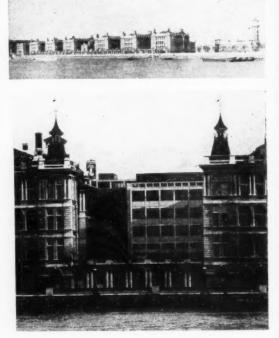
Fourth floor plan



Third floor plan







HOSPITAL,

THOMAS'S

ST

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and ground floor storeys were remodelled within, and retained without to act as a plinth to a new four-storeyed addition above. The west facade was designed to harmonize with the existing ward blocks between which it lies. The view at the top of the page shows the hospital's river front, and below it is a closer view showing the relationship



between the old and the new. Similar materials were used, Portland stone and red brick facings, while the roof structure was covered in blue-black facing tiles to provide a colouring effect similar to that of the slated roofs of the ward blocks. The accommodation within the block was planned to form part of a reconstructed 800-bed hospital. Rooms for the service departments, stores and engineering plant are in the basement. There are a Medical Out-Patients Department and a lecture theatre on the ground floor. Research laboratories (above) are on the first, second and third floors. Operating theatres and ancillary rooms are on the fourth floor. On the left is shown a

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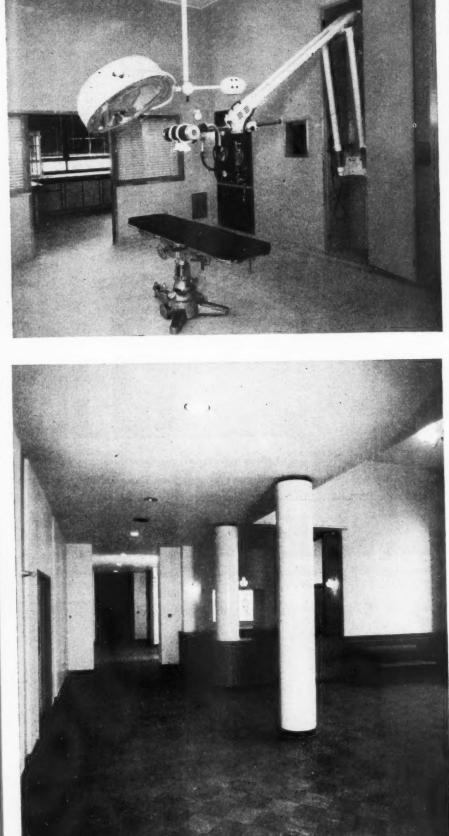
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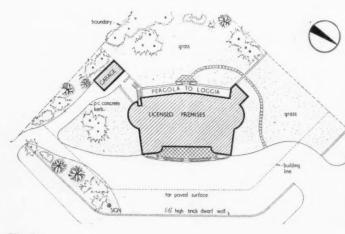


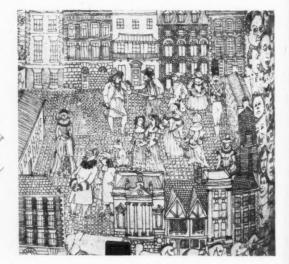
sterilizing room. Students' galleries, plant and service rooms are contained within the structure at roof level. The operating theatres have an X-ray installation of a new type, above and left, which allows high power X-rays to be taken during operations without bringing heavy non-aseptic equipment into the theatre. The X-ray unit extends over the operating table, and folds into a cupboard 1 ft. 6 in. by 2 ft. 0 in. in plan area. The surgeon and the radiographer operating the control unit outside the theatre can see each other through the observation window beside the cupboard and can speak to each other through a microphone and loudspeaker concealed in the grilles at the end of the bracket. Alternatively, the control unit can be controlled from the theatre. The control unit is also a darkroom, so that developed films can be returned to the theatre in a very short time. On the left is a view of the patients' waiting area in the Medical Out-Patients' Department. The cost was £4 8s. per sq. ft. (up to first floor level, incorporating existing work) and £6 16s. per sq. ft. for the new work, including all equipment except the X-ray arms. General contractors, Gilbert Ash Ltd.; sub-contractors, page 449.

" The Mill " public house, Mill Hill East, by E. B. Musman of Musman and Cousens for Benskins Ltd., was designed to include a number of novel and interesting features, and to provide an intimate atmosphere with gay yet restrained decoration. The house has been built in Ibstock facing bricks, the roof is slated, and the whole front slightly curved. The photograph on the right shows the front of the house, the car park, and the inn sign which stands by the roundabout at which the house is situated. In the summer the terrace at the entrance, behind the low brick wall, will be furnished with brightly coloured umbrellas, tables and chairs. There are two floors, and a cellar, the manager's living quarters being on the upper floor. On the ground floor there are two bars, public and saloon, on either side of a small off-licence. They both open on to the terrace, and also on to a loggia and a pleasant garden at the rear, opposite, right.

The loggia, like the terrace, will be furnished for drinking in the place are niches with mirrors, and flower vases lighted from below. In each bar there is an elliptical island fireplace flanked by semicircular seating on one side: on the other the fire faces the bar. In the saloon, opposite left, the whole of the wall surface of the island fireplace has been decorated by a mural drawn by Gordon Cullen, of which a detail is shown right, below. Above each fire-

open air; flowers are a feature both at the front and the rear. Four carved small heads by John Bickerdike are placed at the corners of the canopies over the cabinets in each bar, and an enlarged reproduction of a freehand sketch by E. B. Musman of a Norfolk mill has been etched on the glass in acid on the central window of the saloon bar facing the garden. The bar cabinets are indirectly illuminated. The colour scheme for the saloon bar is:





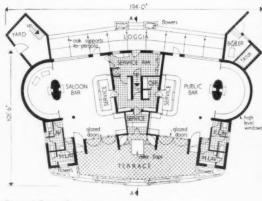
LONDON N.W.7

upholstery; curtains, yellow, black and white check pattern. E. H. Burgess Ltd; sub-contractors, page 449.

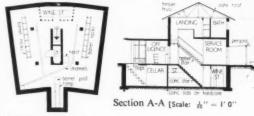
walls, daffodil yellow and black pattern; ceiling, pale blue; For the public bar: walls, red; curtains, yellow; ceiling, beige; floor, mottled black and grey tiles; furniture, black and red, furniture, dark brown stained oak and beige. General contractors



First floor plan



Ground floor plan [Scale: 31" = 1' 0"]



Basement (cellar) plan

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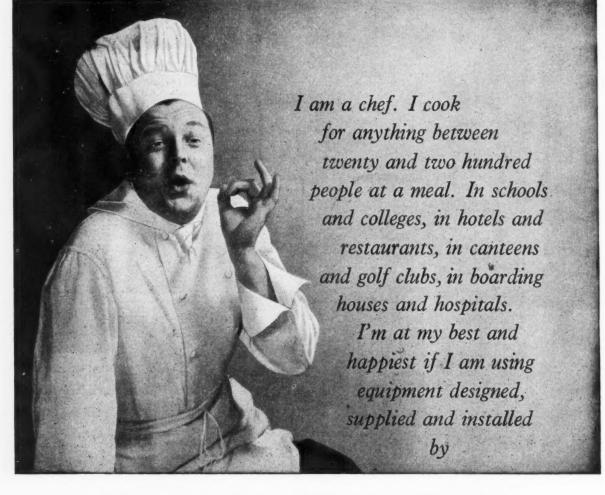
COST ANALYSIS

Total ground floor area of super Total floor area (excluding basen Total floor area of basement Storey heights of basement Total depth of basement	2,771 f.s. 4,040 f.s. 985 f.s. 8 ft. 8 ft.	
Tender date Tender cost of superstructure in and finishings Tender cost of foundations and Tender cost of ancillary building external works Gross total cost Cost per ft. super of floor area in	June, 1955 £22,662 0s. 0d. £3,511 0s. 0d. £2,627 0s. 0d. £8,800 0s. 0d. £5 4s. 2d.	
basement Cost per ft. cube including base	ment	7s. 3d.
Preliminaries and insurances Contingencies Work below ground floor level External valls and facings Internal load bearing walls Internal partitions Upper floor construction and	s. d. 7 114 1 114 13 11 $\frac{1}{2}$ 8 5 $\frac{1}{2}$ 4 2 $\frac{1}{4}$	Wall finishes Built-in fittings Ironmongery Plumbing (external) Plumbing (internal) Sanitary fittings Gas installation Electric installation
staircase Roofs Floor finishes Windows and doors (external) Doors (internal) Ceiling finishes	93572	Electric installation Heating installation Drainage Glazing Decoration Paved areas Sorvice life

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Decoration Paved areas Service lifts



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NEWCASTLE-UPON-TYNE

AND MAISONETTES AT

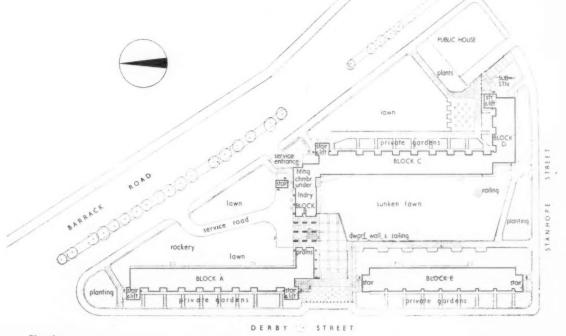
FLATS

Queen's Court, Newcastle-upon-Tyne, consists of 82 maisonettes and 38 flats in five blocks, four of which are interconnected and range in height from 5 to 8 storeys. The site is of 3 acres. Above, the separate five-storey block E, seen from the colonnade under block B. The scheme was designed in the

A STATES

City Architect's Department; George Kenyon, city architect; Raymond J. Ash, deputy city architect; W. A. Horne and D. H. Cunningham, principal assistant architects; B. I. R. Bird and T. W. Stevenson, assistant architects; E. L. A. Czeiler, structural engineer; G. K. Preston, heating and electrical engineer; Thomas Barrett,

A A CALLYN A DA GAR



THE ARCHITECTS' JOURNAL for March 21, 1957



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in the whole design of an interior are provided by a Lumenated Ceiling. Its clean,
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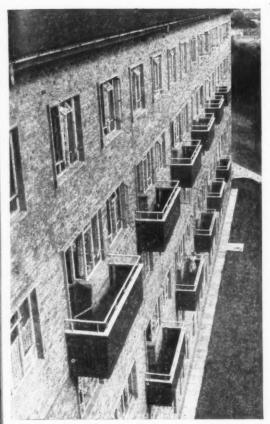


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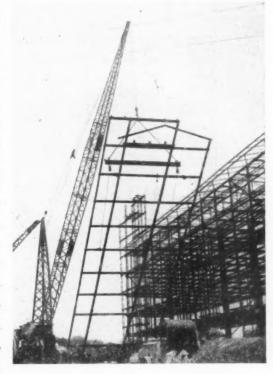
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FLATS AND MAISONETTES AT NEWCASTLE-UPON-TYNE: continued

Sons & Partners, quantity surveyors. There are three 4-bedroom and 79 3-bedroom maisonettes in all. Of the flats 14 are 1-bedroom, all at ground



floor level, and 24 are 3-bedroom. All dwellings on the upper floors have balconies, which can best be seen in the view of block A from block B (left). There are lifts in each block, except in the separate 5-storey block E. The scheme is centrally heated; there is a communal laundry equipped with 6



washing machines, two hydro-extractors and a drying cabinet. Refuse disposal is by the Garchey system. Roof drainage is taken into the Garchey vertical stacks, one for each tier of dwellings. The stacks discharge into five collection chambers, from which garbage is drawn by suction to the central collection tank and incinerator once a week. In construction exceptional





Typical 3-bedroom maisonette, Block E, upper and lower floor plans [Scale: $\frac{1}{16}$ " = 1' 0']

15



Typical 3-bedroom flat, block A [Scale: 16" = 1'0"]

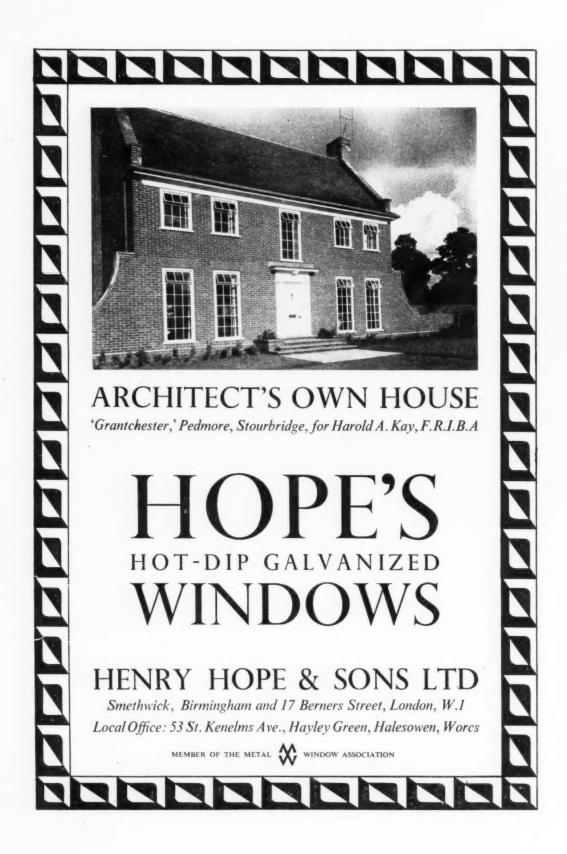


Typical 1-bedroom flat block E [Scale: $\frac{1}{10}$ " = 1'0"]

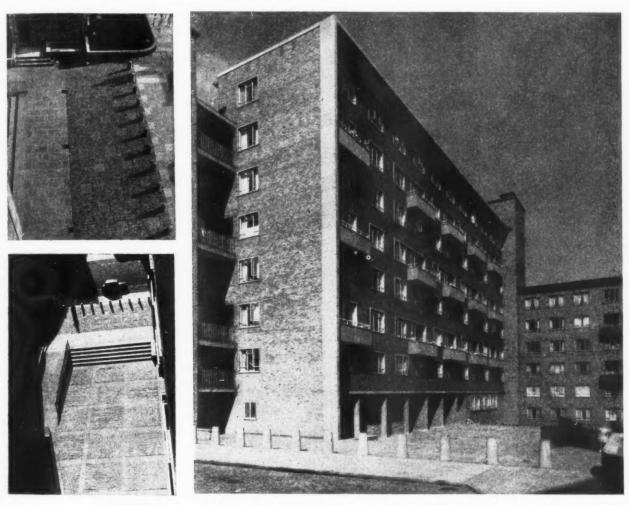




Typical 3-bedroom maisonette, Block A, upper and lower floor plans [Scale: $\frac{1}{16}$ " = 1' 0"]



AT NEWCASTLE-UPON-TYNE: continued FLATS AND MAISONETTES



site difficulties were caused by subterranean cavities and old quarry workings. The majority of the building rests on pressure piles taken down to a solid rock bottom. The welded structural frame is "three-dimensional" in character, and the design method used, invented by Dr. Kloeppel, results in a saving of steel up to 50 per cent. The steel stanchions on a 10-ft. 6-in. lateral grid are formed in two opposed channels, the space between being filled with concrete, vibrated after erection, which carries 28 per cent. of the load. Main beams pass between double stanchions, thus avoiding eccentr

specially designed precast floor units assist in transmitting wind forces to the wind-braced frames. Complete frames up to eight storeys in height were welded on the ground and then raised by crane into the final position (p.440). The varied use of concrete flags, granite setts and cables is seen above, left, in the views of the area between blocks B and E. This area also appears in the photograph above of block B, with block C in background, showing the stair and lift tower connecting the two blocks. The general contractors were Stanley Miller, Ltd. For sub-

COST ANALYSIS

Number of rooms Net tender cost Net cost per room Gross tender cost Gross cost per room Cost per dwelling Tender date Internal floor area Cost per sq. ft.

455 £289,724 £636 155. £315,000 £692 6s. £2,625 October 11, 1951 92,293 sq. ft. 68s. 3d.

ricity, and the contractors	see	page	449.
	Cost	per	Carpenter and joiner
	sq.	ft.	Ironmonger
Element	s	d	Steel and ironworker
Preliminaries and insurance	I	51	Plasterer
Contingencies		21	Plumber
Substructure, including boiler house	5	I	Heating and hot wate
External works		81	Gas services
Drainage		91	Electrician
Superstructure			Lifts
Concretor	4	6	Refuse disposal insta
Bricklayer	9	51	Laundry equipment
Asphalter	/	31	Glazier
Pavior	I	IOI	Painter
Mason	2	41	
Roofer		101	Total cost per sq. ft.

Carpenter and joiner	3	72	
Ironmonger		IO1	
Steel and ironworker	9	8	
Plasterer	4	91	
Plumber	3	61	
Heating and hot water service	4	71	
Gas services		8	
Electrician	2	41	
Lifts	I	4출	
Refuse disposal installation	3	01	
Laundry equipment		71	
Glazier		3	
Painter	I	IS	
Total cost per sq. ft.	68	3	



KING'S LYNN POLICE STATION

Designed on clean precise lines the new King's Lynn Police Station will preserve law and order and will itself be preserved by the first class material used in its construction. 'PUDLO' Brand Waterproofer was selected for use in all the subfloors to this building, the pipe ducts and the pit of the police car repair workshop. The lintels and door canopies and the door steps were all waterproofed with 'PUDLO'.

The composition of the 4" thickness of concrete sub-floors in which 'PUDLO' Brand Waterproofer was used was as follows: --4 parts of clean non-porous aggregate to pass \S " mesh. 2 parts coarse, washed sand. I part of Portland Cement. 2 lbs. 'PUDLO' Brand Powder to each 100 lbs. cement. Only $I\S$ lb. of 'PUDLO' brand Waterproofer was used per yard super for this thickness.



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technical section

THE INDUSTRY

From the industry this week Brian Grant reviews a new range of kitchen cabinets with pivoting shelves and a new range of gas appliances.

KITCHEN CABINETS

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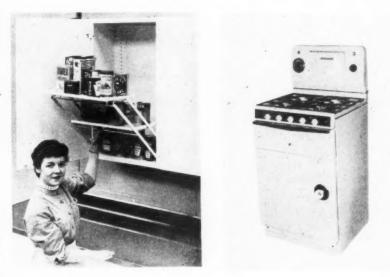
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The photograph on the right shows one of the range of Ezee kitchen cabinets (you can see it in the Daily Mail competition-winning house at the Ideal Home Exhibition, Olympia). The centre and the top shelf have been fixed to pivoting parallel arms in such a way that they can be pulled outwards and downwards to eye level, although at the same time they remain perfectly level. The mechanism is spring-balanced and the complete assembly adds slightly less than £2 to the cost of a standard 21 in. \times 36 in. \times 12 in. cupboard. Since, according to the official statistics, a large proportion of home accidents occur owing to people falling off ladders and rickety stools, it seems, on the face of it, better to be able to lower the high shelves than to climb up and reach them. With this arrangement, there is the very minor disadvantage that some of the storage space is lost as only shallow packages can be placed on the front of the two lower shelves, owing to the swing of the parallel arms, but this cannot be regarded as any serious objection. (Ezee Kitchens Ltd., 341, Sauchiehall Street, Glasgow, C.2.)

NEW GAS APPLIANCES

The photograph on this page shows the new Auto-Range cooker which is the first gas cooker, so far as I know, to have automatically-controlled lighting of the ovens. For some years electric cookers have had automatic time controls which allow ovens or other pieces of equipment to be switched on and off at pre-set times, and, in the past, the gas cooker producers have retorted with a device which they frequently described as an Automatic Timer, although it was, in



Left, one of the Ezee kitchen cabinets, in which the upper shelves can be lowered to eye-level. Right, the Auto-Range gas cooker, which has automatically-controlled lighting of the oven.

fact, no more than a bell which could be set to ring after the required time had elapsed. The new Auto-Range cooker has an electric time control which automatically lights the oven at the required time and also turns it off: there is, of course, a safety control to cut off the supply of gas if the automatic lighting should fail. Whether householders in fact make regular use of automatic devices of this kind I have no means of knowing, but it is possible to buy, relatively cheaply, time control switches which can be used with any type of electric cooker, or for that matter any other piece of electrical apparatus, and I am told that these sell quite well, so presumably quite a large number of people think that devices of this kind are worth having. Either way, the fact now remains that gas and electricity are competing on equal terms, at any rate so far as automatic switching is concerned.

The same manufacturers have also introduced the Conray convection heater which has a gas consumption of 12 cu. ft. an hour and requires only a $\frac{1}{2}$ -in. gas connection. Like other heaters of its kind, it should be useful for bathrooms and halls, and other places where only intermittent heat is required. (General Gas Appliances Ltd. (Members of the Allied Ironfounders Group), Audenshaw, Manchester.)

SANITARY FITTINGS—A CORRECTION We regret that we made a mistake in a note in this column on February 7. We illustrated and described a new range of urinals which we named Florline. The name should have been Multiseal. Florline is the trade name of another new product of Messrs. Broad which we illustrate below. This, as you can see, is a new floor channel which can be laid with its top edge flush with the floor finish. The socket stops off about an inch below the floor surface for the sake of neatness. (Broad & Co. Ltd., 4, South Wharf, Paddington, London W.2.)

Detail of the Florline urinal.



THE ARCHITECTS' JOURNAL for March 21, 1957

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technical section

12 MISCELLANEOUS

rational aspects of colouring in building interiors, 2

In their first article, published last week, the authors, H. L. Gloag, A.R.I.B.A., A.A.DIPL. (HONS.) and M. J. Keyte, A.R.I.B.A., DIP.ARCH. (BIRM.), set down in what sense it is possible to use a rational approach to the problem of colour. This week they apply their approach to three characteristic problems using the colour cards provided with BS 2660.* These problems are, first, the living rooms of a block of flats or maisonettes where the architect must design a system of colours which will permit and define variations; second, a monitor roof factory, where the nature of the task and the structure set very close limits on what can be done; and the third an entrance hall to a small office building where the main problem is to make an instantaneous-and suitable-impression on those entering. This article, like the first, is printed by permission of the Director of Building Research.

The first of these two articles was devoted to the outline of an approach to the use of colour in buildings. We began by defining the concept of character and by discussing its significance in design. We then went on to discuss the particular contributions made to character by colour in terms of three broad functions; namely, to provide an appropriate colour stimulus, to assist good lighting and vision, and to express form or breakdown of surfaces.

In this part we apply the approach to three typical types of interior. A living room, factory bays, and the entrance to an office building. In each case we follow the same pattern of analysis and development as in the approach, but it should be noted that this is done for the sake of clarity in setting down the arguments; not because we are proposing that the sequence should always be rigidly followed, like a recipe or formula, at the expense of imagination.

Our object is to report progress towards a more reasoned and less arbitrary basis for the choice of colours, and to show how the new B.S. range of paint colours, BS 2660, can assist this aim. Far from being stifled, imagination

should become more effective and purposeful if it is harnessed to definite objectives.

LIVING ROOMS IN FLATS AND MAISONETTES

This example is included primarily to discuss the colouring for a unit which is repeated many times in a building and, perhaps, in several buildings to the same design. Some variation in the treatment of such interiors is obviously desirable to give them some individuality, and colour is probably the simplest means to this end. At the same time, such variations must be easy for the site architect to control, and for the painting contractor to carry out. As a basis for discussion, therefore, we are assuming that this living room is a repeating unit in about one hundred flats or maisonettes to be decorated.

Naturally one would like to be able to consult tenants and meet their personal preferences within a set of alternatives, but this is not always practicable.

A factor which can and should be taken into account, however, is that the decoration will form a background to the furnishings. This suggests the use of "safe" colours in the living and bedrooms where furniture and fabrics will be most in evidence, and, in corollary, it suggests that in other parts such as the entrance hall or workingkitchen the stimulus of stronger colour is desirable, perhaps on the ceiling or one wall.

By "safe" colour in the living room we do not mean the use of "cream" on all paintable surfaces. Cream itself as a colour is not to be condemned out of hand, but when it is used "overall," as it so often is, the effect is not so much "safe" as dull, especially in combination with brown-varnished furniture and cupboards. Remembering too that the hue of cream is yellow-red or orange, we can expect the same kind of clash, though in lesser degree, as there would be between bright orange and many of the greens and reds of popular furnishing fabrics. This would not be eliminated entirely until the "creamness" was neutralized to the point where the colour would be called "warm-grey" or "off-white"

Our interpretation of "safe" colouring is that it should be limited chiefly to a soft or greyish palette with differences of value suggested by the lighting and form of the interior; these differences to be sharp enough to avoid a "flat," featureless effect. Qualities of hue would thus be subdued to avoid serious risk of clash with the furnishings. Although the aim of a restrained character for the decorations has been arrived at here by elimination, freer and more individual circumstances would still suggest restraint in the colouring of the main surfaces of a small living room and for reliance on fabrics or furnishing for accents of purer or more distinct colour.

The brightness pattern

Turning to the plan and perspective of the room given in Fig. 1, we see that since the room is lit from one side, the natural tendency is for the window-framing and surfaces of wall D to appear rather dark in contrast with the outdoors and for the light to fall off towards the back of the room. To achieve a sense of good, comfortable lighting we shall want to offset this natural tendency

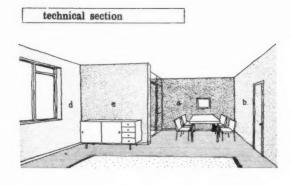


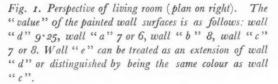
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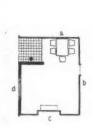


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somewhat by the use of colours which, taken as a whole, are high enough in value to " round-out " the lighting and prevent any sense of glare or gloom. Taking the surfaces one by one, the window-wall D receives least direct light and we would start with white for the window-framing itself and white or value 9.25 for the colour of the wall. This would raise the brightness of these surfaces in comparison with the windows and, tenants' curtain-colour allowing, would minimize the sense of enclosure produced by an opening pierced through the centre of a solid panel of external wall. White as the wall colour is liable to appear too "cold" as a background for tenants' furnishings particularly when it is in shadow, and the off-whites on the range, 3-033 or 4-046 are generally preferable. One of these colours, therefore, can be taken as standard for wall D for all the living rooms and, for simplicity, might also be adopted as the ceiling colour instead of the usual white.

In contrast to wall D, wall A is the best-lit and its value could safely be reduced to 7 or 6. The lower value will give emphasis to this wall as a background to the dining space without resort to greater strength of colour than Chroma 2.

The choice of Value for the other two walls, B and C, depends on several factors. To use the same colour on both might detract from the fireplace as a centre of interest. If the design of the fireplace gives it ample significance in itself, however, or if there is shelving in the recesses on either side, then special emphasis of wall C may not be necessary and a colour of Value 8 will be satisfactory for both B and C. Otherwise emphasis could be given to the fireplace wall, without prejudice to general lighting, by dropping its Value one step and using a pair of colours from the same Hue group, such as 5-058 for wall B and 5-059 for wall C.

A point to be noted here, however, is that if the daylighting is reduced because of large external obstructions, as it might be on the lower floors of the building, by other buildings or trees, it would be advisable to use Value 9 on wall B opposite the windows,

The white already mentioned for window-frames could

be carried through on all trim and other wood or metalwork in the room and indeed in the flat or maisonette as a whole not only for simplicity but to add clarity and sparkle. This implies white on the door as well as architrave but a grey such as 9-100 would be useful for the door itself as an alternative and would raise no problems of harmony either with the wall colours or furnishings.

The colours

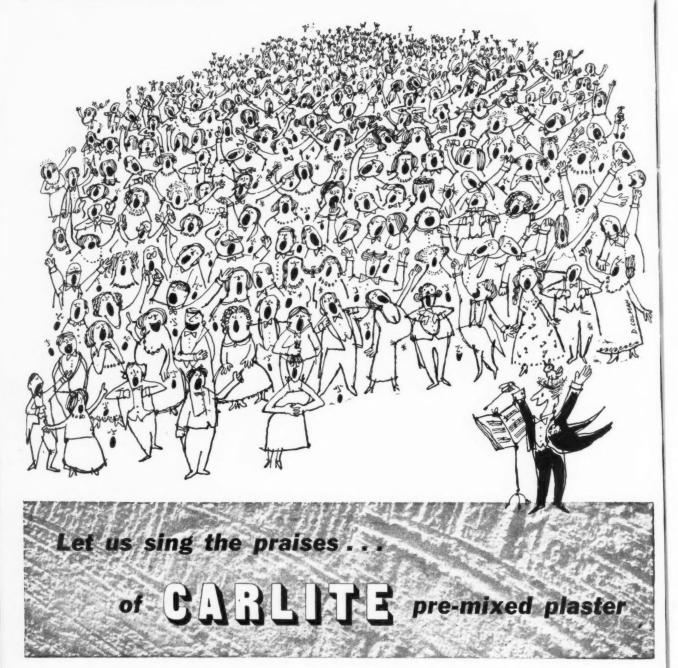
The character of restraint which we have proposed suggests a choice from colours with Chroma 2 or thereabouts, that is from the "soft" colours on the left-hand side of Cards 1-8. The greys on Card 9 are also candidates for the wall colours but in terms of a safe scheme they are probably too "cool" and unwelcoming, just as the more distinctly "warm" colours, that is to say the soft colours in red, yellow-red, yellow and green-yellow (Cards 1 to 5), are preferable to the "colder" shades on Cards 6 to 8.

The selection of colours, therefore, might well be as follows:

4-046 (off-white)
White
2-028 (soft yellow-red)
3-036 (soft yellow-red)
5-060 (soft green-yellow)
7-078 (soft green)
3-035 (soft yellow-red)
4-047 (soft yellow)
5-058 (soft green-yellow)

Twelve schemes can be built up from these alternatives. They could be written in a simplified specification in the forms 2(c) or 4(a) and so on. If two door colours are used, as already discussed, there would be 24 alternative schemes. If circumstances also suggest different colours





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on walls **B** and **C**, the following pairs might be substituted in the list above:

	Alternative (a) (yellow-red)	Alternative (b) (yellow)	Alternative (c) (green-yellow)
Wall B	3-035	4-047	5-058
Wall C	2-027	4-048	4-059

If the circumstances allow the tenants to be given a limited choice, they might be presented with a number of alternative schemes similar to those set out above, but introducing a proportion of stronger colours for wall A, including perhaps 1-022 (red), 4-046 and 5-063 (yellows), 5-064 and 6-071 (green-yellows) and 7-084 (blue), from which to choose. This would give them the opportunity to express their preference, if they have one, for a stronger colour in the living room.

The method described of devising a set of alternatives within the general concept of an appropriate character can be the means of achieving a wide variety of schemes from a small number of colours. With clearly written preliminaries to the colour specification, the individual schemes can be simply designated in a codified form. At the same time a multiplicity of small tins of paint of different colours is avoided and the painting operation simplified. This approach could, of course, be developed for other building types where a number of repeating units is involved; in the case of an office block, for instance, to achieve variety and unity of treatment at one and the same time.

Colour names

In connection with specifications, the question of descriptive colour names arises. They were explicitly omitted from BS 2660 because paint manufacturers have always tended to give their own names to standard colours and because there would be no means of preventing a name adopted for a BS colour being used for a somewhat different colour, with consequent danger of confusion. Another reason is that to discriminate by names between all the 101 colours in a systematic manner would involve rather lengthy and clumsy prefixes, whereas in practice only a small part of the range is likely to be in use at any one time, rendering some of the prefixes superfluous.

The fact remains that names are convenient for day-today purposes in preference to serial numbers and are a safeguard against mistakes. If the paint manufacturer is nominated beforehand for a particular contract, there will usually be the names for the colours which he himself has allotted. Otherwise it is a simple matter for the architect to allot ordinary descriptive names for inclusion in the specification, such as "grey-green" for 5-059 or "pale grey-green" for 5-058.

FACTORY BAYS

In factories we are first concerned with the manufacturing processes to be catered for in the design. A monitortype roof has been assumed for the example (See Fig. 2),

not because this is the best answer for all occasions but because it is being increasingly used. A strip-window is included on an outside wall to add local daylight and to help to relieve a sense of enclosure within the production area, for no amount of colour or decorative interest is likely to be as useful in this respect.

The working-plant with its equipment seldom lends itself to strong colour stimulus because the treatment must have as its prime object softening and grading effects to simplify recognition and attention at the work. At the same time, these restrictions at working-plane put greater emphasis on developing a more powerful stimulus in the general surroundings. This does not imply striving after strong colour wherever surfaces offer; the question of how much strong colour and its location depends on several factors which we discuss later. It does suggest, however, that colour should be used to simplify the scene, if need be by camouflaging complex or disruptive elements.

One single fixed set of colours will not answer for factories in general, if only because of variations in lighting and structural design. The roof itself is often the convenient place for the stronger colour where it is out of the way of the work, provided it is lit by day and night and can be appreciated in general views across the factory.

Adequate artificial lighting is important in factories, and fluorescent tubes are becoming the prevalent means of achieving a higher level of even general lighting, partly because they mix fairly readily with daylight. Under fluorescent lighting at night, however, some colours are observed to change in appearance and these changes are being investigated at BRS in an attempt to trace general effects on the colours of BS 2660.

Lighting and surface patterns

The first need in a factory production area is usually that there should be good general lighting over the whole of the working-plane. It is still normal practice to make as much use of daylight as possible, and hence there is emphasis on the proper spacing of top-lights and on an area of glass which will give something like 4 per cent. Sky Factor throughout. Ideally the light should be integrated so that it is not dominant or exclusive in one direction only, and the monitor-roof section as in the present example does serve to answer this need.

There are two points about this type of roof-section, however, which have to be borne in mind. The first is that it gives access to sunlight which may be dealt with adequately enough for some kinds of factory work by a diffusing glass but in more critical cases may require some form of louvring in addition. The second is that the horizontal ceiling between the monitors receives no direct light from the monitor-windows and is liable to appear dark. As there is often a shortage of surfaces below capable of sending light back to the roof in sufficient quantity, there is virtually no alternative to White or near White for the main ceiling, to raise its brightness, especially as strong colour however light will lose its qualities in the shadow.

The control of brightness patterns on the work itself

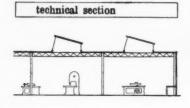
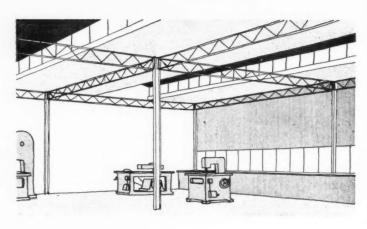


Fig. 2. Perspective of typical factory end bay (above, section through bay). The machinery is coloured between "Values" 4 to 8, the lower ceiling is at least Value $9 \cdot 25$, the structural frame Value 5 or $9 \cdot 25$, the upper monitor ceiling, Value 6 or 7, the window wall, Value 8, and the floor finish, 5 or 6.



demands first of all a careful study of the visual tasks involved, which can vary in intensity and complexity over a very wide range. It is essential for the architect to have some insight into them if he is to design a satisfactory environment, even if he is not in a position to give detailed advice on the treatment for equipment or machinery. This detailed part of the problem, in fact, often requires the help of specialists who are far too few in number. For normal light engineering equipment we can say in very general terms that a single-colour treatment in grey or tinted grey of Value 6 is often a satisfactory answer, or alternatively a set of greys of Values 4, 6 and 8 (as on the right-hand side of Card 9) to allow a simple scheme of grading and articulation on the machines. Many kinds of work in factories require light of the order of 50 to 100 lumens per square foot concentrated on the work itself as well as good general lighting and this often calls for local artificial lighting.

In the general surroundings, the brightness pattern, as in the present example, is a comparatively simple problem and Values can be quickly decided. For the reason already mentioned the main ceiling requires a very high Value (at least $9 \cdot 25$). All surfaces liable to be seen directly against the monitor windows, such as the structural frame itself (in this case steel), pipes, conduits or ducts, together with the window-framing, also require high Values ($9 \cdot 25$ or 9). Despite all efforts by the architect, overhead services have a habit of accumulating untidily and a uniform light and neutral colour such as 9-093 is useful for camouflage. Assuming that the monitor ceiling receives light from the diffusing glass on either side, we can if we wish drop its Value to 6 or 7.

The walls, again, do not admit of much freedom in the choice of Values. They can contribute some reflected light to nearby positions, but more especially it is important for them to contribute a clarity and a sense of brightness in the production area at large. These two points added to the fact that they are the main surrounding surface to the "view-window" and probably also to external doorways, suggest a Value of 8.

Maintenance is usually a prime factor in the choice of

factory floor finishes but whenever it is possible, the aim should be a Value of 5 to 6 because the extra lightness below will contribute to a sense of brightness inside to a very marked degree.

The colours

The general aims of the colouring, established earlier, are to produce an effect of simplicity in the surroundings combined with a fairly strong stimulus and clarity in the colouring.

The first step therefore is to try to make a clear distinction between the main architectural elements within the framework of Values already determined, avoiding strong colour on the structural frame or other narrow elements because that would quickly lead to irritation, the very effect we would want to avoid.

The main structural elements in the example are the frame (including columns and pilasters but excluding gantries and cranes), main ceiling, monitor ceiling, walls, and floor.

Opportunities for strong colour have been eliminated on the main ceiling and structural frame and we are left with the monitor ceiling and the walls for which Values of 7 and 8 respectively have been arrived at as the lower limits. Owing to its isolated position, there is no very strict limit on Hue or Chroma for the monitor ceiling beyond the ultimate need for it to "key-in" with the colour scheme in general. Yellowish-green 6-071, green-yellow 5-062, red 1-022, yellow 4-057 or blue 7-084 are all admissible from the "fairly strong" groups on the right-hand side of Cards 1 to 8. There are also six possible colours on the "strong" card, including the three yellows, the two green-yellows, and red 0-005, excluding the orange 0-004 as probably too harsh.

The extensive areas of the wall-panels between pilasters and their function as backgrounds within the factory, suggest a limit on Chroma of 4, although even this strength at Value 8 is verging on excessive in blue. For many light industries the choice could lie between either of the Value 8 colours on the left-hand side of Cards 3, 4, 5 and 9 for the full-length walls with blue (7-082) on the

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walls above the view windows. This contrast of Hue will in itself produce a moderate stimulus which will be further enhanced by the light and sharp frame formed by the pilasters and columns dividing vertically and the white or off-white ceiling (4-046 or 3-033). On looking back at the monitor ceiling colours, we find that the choice is still open except perhaps for blue which might be thought to be a prosaic repetition of the blue already used.

The colours or the alternatives of colour we have arrived at can be set out thus:

Surface	Value	Chroma	Colours	Finish
Window-frames	9.25 or above	Neutral	White	G (gloss)
Structural- frame and pilasters	8 or above	Neutral or near neutral	9-094	G
Overhead ducts, pipes, conduits, etc.	8 or 9	Neutral or near neutral	9-093	G
Main ceiling	9.25 or above	Neutral or near neutral	White or 4-046 or 3-033	S.G. (semi- gloss)
Monitor ceiling	6 or above	Up to full strength	Red, 1-022 or 0-005 Yellow, 4-057 or 0-001, 0-002, 0-003	S.G. or G.
			Green-Yellow 5-062 or 0-008, 0-009 Green 6-071	
			Blue 7-084	
Main wall areas	8	2	3-035 4-047 5-058	M (matt)
Wall above view windows	8		7-082	M or S.G.
Machinery and equipment	8, 6, 4	Neutral or near neutral	9-099 or combina- tion of 9-099 9-100 9-101	S.G.

The effect of the analysis has been to arrive rationally at Values and Chromas for the general treatment. Some parts, and the machinery itself, are in greys of varying lightness for definition and clarity, chief reliance for stimulus from Hues being placed on the alternatives for walls and monitor ceiling.

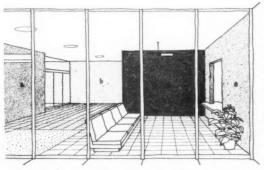


Fig. 3. Perspective of entrance hall for a small office building (plan on left). The ceiling is white or Value 9, the floor, Value 6 or 7, walls "a" and "e" are Value 7 or 8, wall "b" is white and wall "d" Value 5 or 6. The Hues we have listed as alternatives offer several different combinations but the basis of all of them would be soft, warm colour on the larger proportion of walls with smaller areas of stronger, contrasting colour on the wall above the view-window and monitor-ceiling. We have not discussed all the alternatives of Hue but have aimed at suggesting the kind of solution likely to be satisfactory as a background for normal factory processes. It will have become apparent, we hope, that in this example the alternatives of Value and Chroma can be narrowed down in terms of work, the lighting and the form of the building, and that flexibility to meet special preferences or emphasis suggested by the work resides chiefly in the choice of Hues.

ENTRANCE HALL FOR A SMALL OFFICE BUILDING

This interior has been deliberately chosen to contrast with the other examples in this article, as a space where no strict limitations are imposed on the colouring by the need to provide for specific visual tasks (See Fig. 3). We shall nevertheless show that the same method of analysis can give direct guidance as to the form the colouring should take. The design selected is fairly pedestrian in a relatively low-cost building, and is therefore an interior where surface treatment can make an important and positive contribution. However, since our terms of reference are to discuss the use of colours from BS 2660, we shall not attempt in this article to consider natural finishes, applied pattern, murals or other decorative elements.

The entrance hall will be the first impression users of the building will have of its interior, and it will therefore call for the most special consideration. This first impression will be an immediate one, and therefore the treatment must be clear, precise and well defined. Subtle effects, say perhaps the hue difference between two soft colours, which might be decisive in interiors such as offices or living rooms, would not be noticed here and would be ineffective. This first impression on entering must also be fresh, cheerful and welcoming, and therefore sharp clarity and a strong colour stimulus will be required.

Lighting and surface brightness

It is important to realize that the entrance hall acts as a transition between outside and inside, in terms of levels of illumination. The levels inside the building are likely to fall to from one fiftieth to one hundredth of those outside, and as a space linking the two, the entrance hall can help to give the eyes time to adapt down to these lower levels. To achieve this, it must by day be brightly lit in comparison with the other interiors, and the generous fenestration of this design is therefore well justified in this respect. The hall, however, is lit naturally from the one side only, and reflected light will be needed to ensure that the far end of the interior is well lit. This will mean that the major surfaces should be kept light, particularly the floor and ceiling. A suitable Value for the floor within practical limits would be 6 or 7, with the ceiling White or Value 9. At the same time it will be necessary to keep the surfaces which are receiving little or on

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light to high Value levels, so that an appearance of gloom is avoided at the end of the hall furthest from the windows, particularly when it is seen on first entry with eyes still partially adapted to outdoor brightnesses. Thus it would seem desirable to make both walls B and C white, but for better definition of form we would prefer white on wall B and Value 9 on wall C. On the other hand walls A and E, which are better lit, can be somewhat darker at Value 8 or 7. The remaining wall D, which directly faces the glass, and which will make no appreciable contribution to the reflected light reaching wall B, can be allowed to be darker still, and Values of 6 or 5 would be acceptable. As in the other examples window bars and surrounds should be white or very light grey to minimize contrasts.

The colours

To achieve the character already discussed with the two objectives of sharp clarity and a powerful stimulus, strong colour will be the most obvious palette to choose from. It will probably best fulfil these objectives if it is seen in a neutral setting of white or grey, rather than if the strong colours join up with one another.

We have also to consider the important fact that with increasing depth of shadow, strong colours lose their qualities and become weaker and darker in appearance. If, for example, strong yellow 0-001, were used on wall B, it would probably, from the entrance doors, look more like 4-056, and from the middle of the street outside like 4-050. Thus in this example, to achieve the right clarity and sharpness, strong colour should only be used on surfaces which are well lit, that is walls A, D and E. Walls B and C are relatively poorly lit, so they should be kept neutral with B white and C at 9 Value grey, No. 9-093. Parts of the ceiling are also poorly lit, so that it cannot be considered, as an unbroken surface, as being suitable for strong colour. Since it has in any case the important job of acting as a suitable light reflector it should be kept white. If the ceiling is kept matt, and wall B painted gloss white, then the junction of the two would become more distinctive and the brightness of wall B enhanced by the sparkle of reflected highlights.

Wall E, although well-lit, and therefore in this respect suitable for strong colour, is broken up into a slightly awkward shape by the enquiry counter. If, however, it is kept neutral grey, this will not be emphasized; an 8 Value grey, No. 9-094, being suitable. This neutral grey will also form a satisfactory background to the counter and its surrounding trim, if these are in natural hardwood.

If the floor is also kept neutral, the general approach of strong colour plus neutrals will be maintained. Parts of it are well lit, making strong colour a possibility, but since the floor has to act as the major reflector of most of the light reaching the ceiling and rear walls, it must be kept to a high Value, and this immediately precludes the use of all strong colours except the yellows. In any case strong colour so placed would "spread" by reflection to tinge the other surfaces of the entrance hall. This would be avoided with, say, a light grey thermoplastic tile with perhaps black and white marbling, which if reasonably maintained would appear light, clean and sparkling.

Similar effects could be achieved with other flooring materials.

So far, therefore, our analysis would suggest walls A and D as most suitable for strong colour. If preference were given to D, then the difference both in terms of space and of function, between the waiting space and pure circulation would be better defined. At the same time if wall D is highly coloured, it would naturally draw the attention of new visitors to the enquiry and waiting space. It therefore seems logical that preference should be given to strong colour on Wall D.

If wall A is painted neutral grey like E, then the overall scheme will be very simple and direct. It can, on the other hand, be the place for a second colour, somewhat weaker than that on wall D and also fairly light to align with the conclusions already reached about its Value.

Our choice then, to summarize, is for a strong colour on wall D, and if not painted grey, a fairly strong colour on wall A. The main issue left open for decision is the Hues for these colours and here the argument becomes less systematic and more speculative, but at the same time certain ideas built up from practical experience and observation can be brought into play.

Dealing first with wall D, we are using Card O of BS 2660 for our pallette. Some of this group of colours can be ruled out for this surface, because they are either too dark or too weak. These would include 0-006, 0-007, 0-013 and 0-014 as being too dark and 0-011 and 0-014 (again) as being too weak. Another group that can be eliminated are the very light strong colours, that is to say the yellows and green-yellows. It must be remembered that the internal colour will be seen from outside by day, and will appear in shadow. These light strong colours, when so viewed, with the apparent loss of lightness and strength already discussed, tend to lose their identity. This would leave four alternative possible colours, the orange 0-004, red 0-005, green 0-010 and blue 0-012. The final choice between these would depend to a certain extent on the incidental colours which are likely to be introduced, furniture, fabrics, plants, etc., and also on the external colouring, both natural and applied, in relation to which it will be seen from outside. Assuming that most of this colouring is warm in hue, with brickwork and natural timber, then the blue is going to make the strongest contrast, and would therefore have the most powerful effect.

If wall A is to be coloured, and not kept neutral, then there are a large number of colours in the "fairly strong" group at Value 7 or 8 on the right-hand side of cards 1 to 8 inclusive, which are within the category required for this wall. The choice of hue will be governed by similar considerations to that for wall D, that is to say, to avoid yellows and green-yellows, and to allow for the incidental colours to be seen beside it. Possible candidates would include pink 1-021, orange 2-031, green 6-071, blue 7-083 and red purple 8-091. Assuming that wall D is blue 0-012, the general setting of incidental colour being warm hues of natural timber and brickwork, a secondary contrasting cool hue is required with the blue, which would make the green the most obvious colour, with the red-purple as a second choice.





SHEET MATERIALS PLASTICS APPLICATIONS

The Architects' Journal Library of Information Sheets 611. Editor: Cotterell Butler, A.R.I.B.A.

face of veneer 0 ____ maximum curvature at radius 3" radius = 300° face of min. veneer radius I^{°°}min. radius 3 maximum curvature at 1" radius = 180° BASIC CURVES. veneer applied flat= radius ¾" min. panels with shaped edges ALTERNATIVE METHOD FOR SMALL RADII. (where construction permits)

> timber filling to support curve

5 -

15.TI0 0

TYPICAL APPLICATION OF POST-FORMED CURVING METHOD.

FORMICA LAMINATED PLASTICS: VENEERS: POST-FORMED CURVES. Manufacturary Thanks D. I. D. ... I C. III

15.T10 ·FORMICA· LAMINATED PLASTICS : VENEERS : POST-FORMED CURVES

This Sheet is one of a series dealing with Formica laminated plastics. It describes the method of curving veneers for various applications to furniture and fittings. Sheet 15.S6 gives a general description of Formica and the forms in which it is available. The application of veneers to flat surfaces is described on Sheet 15.T6.

General

In addition to the standard grades and finishes for flat decorative veneers, Formica laminated plastics are available in a special grade of $\frac{1}{16}$ -in. thick veneer which is capable of being formed into simple curves under controlled heat with forming tools. The forming allows for the patterned surface of the veneer to be on the inside or outside of the curve. Curves can be as small as 1-in. radius ($\frac{1}{4}$ -in. with special construction). Dishing or double curvature is not catered for by this method.

Sizes

The maximum size of veneer for this application is 8 ft. 0 in. by 4 ft. 0 in., therefore the maximum length of curved section is 8 ft. 0 in. The minimum radius to which the veneer can be curved is normally 1 in.: radii down to $\frac{3}{4}$ in. can be obtained as described under *Method*. The curve of 1-in. radius can be bent through 180 deg., whereas a curve of 3-in. radius can be bent through 300 deg., this being the maximum amount of curve practicable with simple tooling.

Method

The bonding is normally carried out in two stages.

The veneer is first bonded to a flat plywood or blockboard assembly. The backing is then removed from the area of the proposed curved portion, which is then heat-processed and formed. Wood fillings are then applied to support the curve. Smaller radii (minimum $\frac{3}{4}$ in.) may be constructed, as shown in the drawing on the face of the Sheet, by applying the veneer flat to panels with accurately-shaped edges and, under heat, forming the veneer to a curve by bringing the shaped panels to their correct ultimate position.

Patterns and Colours

The grade of veneer used for forming curves is available in most of the standard patterns and colours.

Further Information

The manufacturer maintains a technical advisory department which is available to answer questions, to demonstrate methods and to advise on problems relating to this subject generally.

Compiled from information supplied by: Thomas De La Rue & Co. Ltd. Address: Plastics Division, Imperial House, 84-86, Regent Street, London, W.1. Telephone: Regent 2901. Telegrams: Delinsul, Piccy, London.

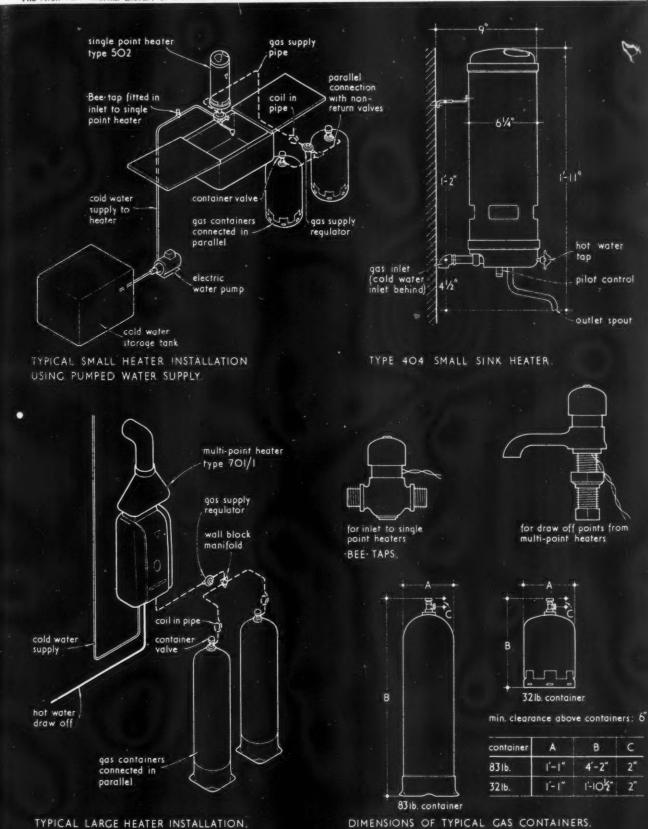
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WATER HEATING UNITS GAS

The Architects' Journal Library of Information Sheets 612. Editor: Cotterell Butler, A.R.I.B.A.



ASCOT- INSTANTANEOUS GAS WATER HEATERS OPERATED BY LIQUEFIED PETROLEUM (BOTTLED) GASES.

32.030

N

32.C30 ·ASCOT· INSTANTANEOUS GAS WATER HEATERS OPERATED BY LIQUEFIED PETROLEUM (BOTTLED) GASES

This Sheet describes the application of Ascot instantaneous gas water heaters for use with liquefied petroleum (bottled) gases, viz. butane and propane. These gases are generally distributed in steel containers to areas where towns gas is not available, or for use where it would be uneconomical or impracticable to instal a piped supply from an existing gas main, e.g., rural properties, remote outbuildings, boats, etc.

Selection of Heater

Sheet 32.C22 deals fully with the selection of Ascot heaters for specific purposes, and the general principles apply equally to Ascot L.P. gas water heaters listed in the table below. Comparable types, designed for operation on towns gas, are given so that information contained on previous Sheets in this series may be applied.

L.P. model type no.	Purpose	Towns gas model type no.
404	Small single-point sink heater	403
404 502	Small single-point sink heater with means of providing boiling water	{RS52/1 509 709
701/1	Large multi-point heater	709

Characteristics

Туре		Output	Input	
no.	B.Th.U./ \equiv gal./min. raised through °F.		B.Th.U./ hr.	Lb. of gas/ hr.
404	350	$ \left\{ \begin{array}{ccc} 0.35 \text{ raised } 100\\ \text{or } 0.44 & , & 80\\ \text{or } 0.58 & , & 60 \end{array} \right\} $	30,000	1.42
502	450	$ \left\{ \begin{array}{c} 2\text{-}2\frac{1}{2} \text{ pt./min. at boil-}\\ \text{ing temp.}\\ \text{or } 0\text{-}5 \text{ raised } 90\\ \text{or } 1\text{-}0 \text{ , } 45 \end{array} \right\} $	36,000	1.7
701/1	1,250	$ \left\{ \begin{array}{ccc} 1.25 \text{ raised } 100\\ \text{or } 1.56 & \text{, } 80\\ \text{or } 2.1 & \text{, } 60 \end{array} \right\} $	97,500	4.57

Components

With the exception of gas sections and the special aerated-type burners used, details of construction are similar to those given on previous Sheets in this series.

Finish

White or cream vitreous enamel. Visible fittings chromium and nickel-plated.

Installation

Position

The 404 and 502 are freestanding, the weight being taken by the pipework, but a top wall fixing clip (supplied as an extra) can be used to steady the heater at the top rear of the outer shell.

For type 701/1: Grouting bolts and hanging brackets are supplied. To facilitate regulation and maintenance the heater should be fitted so that the burner

level is approx. 4 ft. 9 in. from the floor and in such a position that an adequate intake of air is assured. The heater should be installed as close as possible to the most frequently used draw-off tap (normally at the kitchen sink) taking into consideration the necessity for an efficient flue installation.

Gas

Connection: Type 404 and 502-1-in. tapered B.S.P. male thread.

> Type 701/1-1-in. tapered B.S.P. female thread.

- Gas Supply: Type 404 and 502-from a standard gas container with a regulator.
 - Type 701/1-from two standard gas containers connected in parallel to a regulator.

Note: The gas container must be installed in accordance with the supplier's instructions.

Water

From tank or mains water supply. Minimum head required:

Type 404: 3 ft.	Measured vertically from the
Type 502: 15/20 ft.	level of the water in the tank to the level of the water section.

Type 701/1: 10 ft. Measured vertically between the level of the water in the tank and the highest draw-off point.

Supply Piping:

Type 404: $\frac{3}{4}$ in. to $\frac{1}{2}$ in. Type 502: $\frac{1}{2}$ in. to $\frac{3}{4}$ in. Type 701/1: $\frac{3}{4}$ in. to 1 in. depending on length of run and available pressure.

A stopcock (of an approved pattern) must be fitted in the cold water supply close to the heater to facilitate maintenance.

Electric pump: An electric water pump, operated by spring-loaded contact taps (Bee taps) may be used to supply cold water from a storage tank. The drawing on the top face of this Sheet shows a typical installation. Further details will be given on application.

Ventilation

Towns gas requirements are adequate for L.P. (bottled) gases.

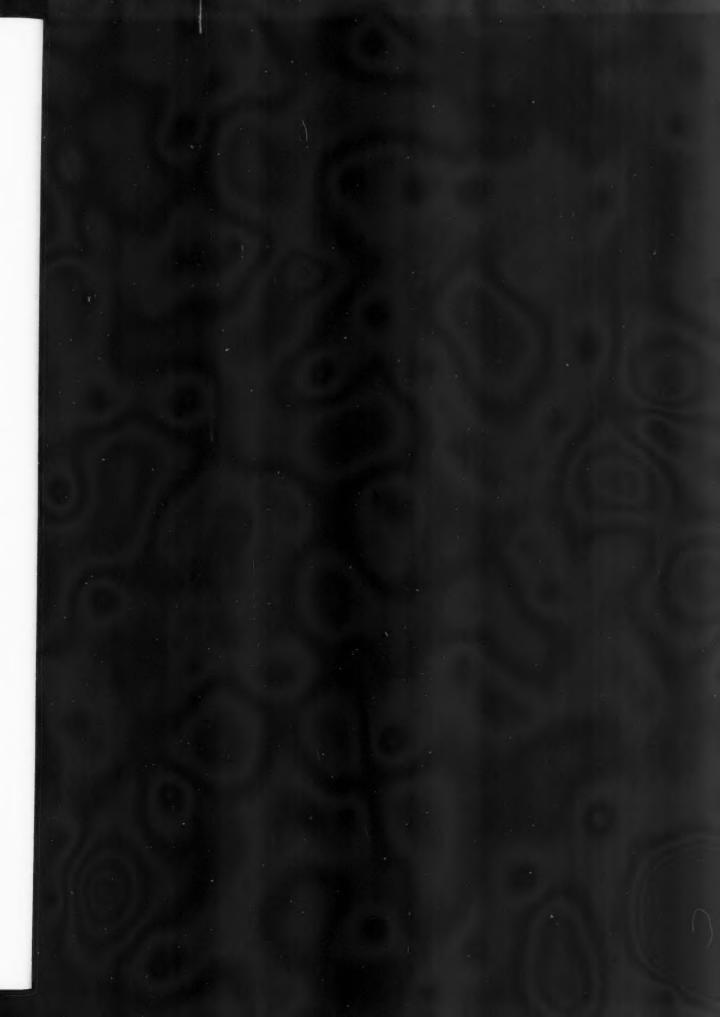
Compiled from information supplied by: Ascot Gas Water Heaters Ltd. **Head Office**

and Works : 255, North Circular Road, Neasden, London, N.W.10. Telephone : Willesden 1234. Telegrams : Gascot, Phone, London.

Branch Offices and

Service Depots : Birmingham, Bournemouth and Glasgow. Service Depots : Belfast, Bristol, Cambridge, Manchester, Oxford, Reading, Southampton, Sunderland, Stoke-on-Trent and Jersey.

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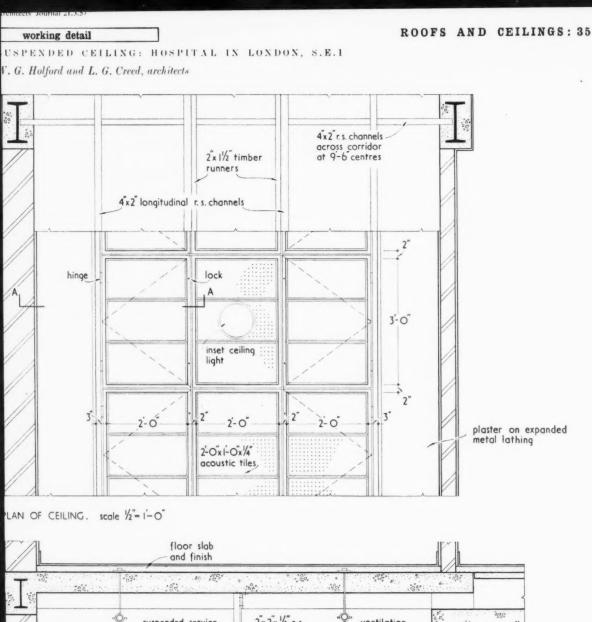
working detail

SUSPENDED CEILING: HOSPITAL IN LONDON, S.E.1

W. G. Holford and L. G. Creed, architects

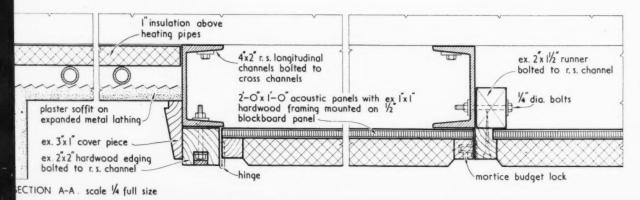


The duct above this suspended ceiling contains the ventilation trunking, service pipes and electric cables. Access to these is provided via the edge panels, each one of which is hinged to flap downwards when unlocked. The use of hardwood framing to these panels and the contrast in colour between this framing and the acoustic tiles provides a strong pattern in the ceiling which masks the uncenness between tiles which is usually so noticeable in ceilings of this type. The plaster bands on either side of the acoustic ceiling are heating panels.



tray for electric light fitting r.s. channels









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Contractors

Rebuilding of Block VIIA, St. Thomas's Hospital. Lambeth Palace Road, London. S.E.1 (pages 433-435). Architect: Leslie G. Creed, F.R.I.B.A., A.M.T.P.I. Consulting architect: Sir William Holford, M.A., F.R.I.B.A., P.P.T.P.I., F.I.L.A. Consulting engineers: Travers, Morgan & Partners. Quantity surveyors: Franklin & Andrews. General contractors: Gilbert-Ash Ltd. Sub-contractors:-Terrazzo: Art Pavement & Decorations Ltd. Electrically operated blinds: J. Avery & Co. Instrument storage units: W. H. Bailey & Son Ltd. Portland stone: Bath & Portland Stone Firms Ltd. Joinery: Boorman & Perkins. Floor, wall & faience tiling: Carter & Co. Ltd. Hollow pot floors & concrete: Caxton Floors Ltd. Seating to viewing galleries: A. T. Chamberlain & Co. Partitions: Compactom. Painting: C. & T. Painters Ltd. Acoustic tiling: Horace W. Cullum & Co. Spiral staircase: S. W. Farmer & Son. Glazing: Faulkner Greene & Co. Mosaic panels: Fenning & Co. Tarmac: The General Asphalte Co. Electric clocks: Gents & Co. Scaffolding: Hine Ltd. Refrigerator: Matthew Keenan & Co. Lenscrete lights: Lenscrete Ltd. Autoclaves, sterilizers: Manlove Alliott & Co. Ventilation to operating theatre: Mellor Bromley & Co. Plastering: Alan Milne Ltd. Bricks: R. Passmore & Co. Heating installation: Norris Warming Co. Gas installation: North Thames Gas Board.

Plumbing: Arthur Scull & Son Ltd. Steelwork: Matthew T, Shaw & Co. Asphalte: Val de Travers Asphalte Paving Co. Velux windows: Velux Co. X-ray installation: Watson & Sons Ltd. Lift: Waygood-Otis Ltd. Electrical work: F. H. Wheeler & Co. Laylight: A. Arden & Co. Flooring: Semtex Ltd. Slate strings: Bow Slate & Enamel Co. Ironwork: Clark Hunt & Co. Sanitary fittings: Stilsons Sanitary Fittings Ltd. Ironmongery: Yannedis & Co.

"The Mill," Holders Hill Road, Mill Hill East, Finchley (pages 436-437). Architects: Musman & Cousens F./A.R.I.B.A., Quantity surveyors: Frederic Saunders. General contractor: E. H. Burgess Ltd. General foreman: G. A. Hannington. Sub-contractors-Beer engines: Gaskell & Chambers (London) Ltd. Bricks: Finnis, Ruault & Nicholls, Ltd. Carpets: Afia Ltd. Cellar flaps: Luxfer Ltd. Electrical installation: Rashleigh Phipps & Co. Ltd. Felt roofing: William Briggs & Sons Ltd. Flooring: Rowan & Boden Ltd. Flush doors: Jayanbee Joinery Ltd. Furniture curtains etc.: P. Ladyman & Son. Gas: North Thames Gas Board. Heating: Colley, Meikle & Co. Ltd. Ironmongery: N. F. Ramsay & Co. Ltd., & Parker Winder & Achurch Ltd. Iron stairs, gates lettering and "Chevin" fires: George Wright (London) Ltd. Landscape gardens: Lindsell & Coleby. Lifts: Aldous & Campbell Ltd. Metal windows: W. G. Kaleyards Ltd. Paint : Thomas Parsons Ltd. Quarry and glazed tiling: Carter & Co. (London) Ltd. Sign:

S. M. Agar. Special glass design: London Sand Blast Decorative Glassworks Ltd. Stainless steel sinks: Standard Range & Foundry Co. Ltd. Wall covering and upholstery: Amoride Ltd. Wood carving: John Bickerdike. Mural: Gordon Cullen. Prints: School Prints Ltd. Electric light fittings: General Electricity Company. Joinery: E. H. Burgess Ltd.

Queen's Court, Flats and Maisonettes, Newcastle-upon-Tyne for the Housing Committee, City and County of Newcastle-upon-Tyne (pages 439-441). Architects: George Kenyon, DIP., ARCH., A.R.I.B.A., A.M.T.P.I., City Architect; Raymond J. Ash. DIP., W. A. Horne, DIP., ARCH., A.R.I.B.A. and D. H. Cunningham, B.ARCH., A.R.I.B.A., Principal Assistant Architects. Consulting engineers (structural): E. I. A. Czeiler, A.M.I., STRUCT.E., (heating and electrical): G. K. Preston, A.M.I.H.V.E., A.M.I.E.D. Quantity surveyors: Thomas Barrett, Sons & Partners. Clerk of works: T. G. Taylor. General contractors: Stanley Miller Ltd. Sub-contractors-Trial holes: Boldon Drilling & Engineering Co. Ltd. Pile foundations: Sir Robert McAlpine & Sons (Newcastle-upon-Tyne) Ltd. Raft foundations: British Reinforced Concrete Engineering Co. Ltd. Steelwork: Dorman Long & Co. Ltd. Painting to steelwork: Structural Painters Ltd. Facing bricks: Richard Thomas & Baldwins Ltd., Accrington Brick & Tile Co. Roofing: Robertson Thain Ltd. Plasterer: R. W. Sanderson & Son. Colterro lathing: W. H. Colt



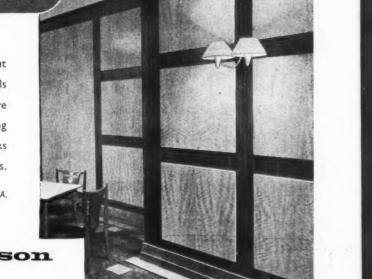
The straight grained Australian Walnut and figured Australian Maple veneered panels used in the new Coffee Room were manufactured at our Crayford factory using veneers selected from our stocks by the Architects.

Architects : Kenneth Lindy, Joseph Hill & Partners, F/A.R.I.B.A. Contractors : Ashby & Horner Limited.



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Announcements ^{TRA}

PROFESSIONAL

Norman Whicheloe, A.A.DIPL., A.R.I.B.A., M.S.I.A., and Stephen Macfarlance, A.A.DIPL., A.R.I.B.A., have amalgamated their practices and entered into partnership under the title of Whicheloe and Macfarlane. Their new address is 3, Berkeley Square, Bristol, 8 (telephone: Bristol 28786).

J. E. C. Powell, F.R.I.C.S., Chartered Quantity Surveyor, has taken into partnership J. C. Large, A.R.I.C.S. The firm will now be known as Messrs. Powell and Large, of Broadgate House, Coventry, and 5, Abbey Gate, Nuneaton.

B. Ivor Day, A.R.W.A., F.R.I.B.A., has taken into partnership A. J. Dakin, A.R.I.B.A., A.M.T.P.I. The practice will now be known as Ivor Day and Dakin, of Atlas Assurance Building, 9, Clare Street, Bristol, 1.

Peter Berner, A.R.I.B.A., A.M.T.P.I., has moved to 94, Thoro'fare, Woodbridge, Suffolk (telephone 537).

A. J. Saise and N. W. Curtis, A/L.R.L.B.A., have moved to 43. Manchester Street, Manchester Square, W.1 (telephone Hunter 0682).

The Architects' Benevolent Society announce that 99, 312 and 717 are the lucky numbers, printed on the inside cover of the 1956 ABS Menu, which have drawn a free ticket for this year's Ball to be held on December 11, at Grosvenor House. Holders of these menus should contact the Hon. Organizing Secretary, The Architects' Benevolent Society Ball Committee, 55, Pall Mall, London, S.W.1.

TRADE

Concrete Ltd. announce that Brian Bagnall, B.ARCH. (L.POOL), A.R.L.B.A., has been appointed as an additional London representative, from April 1.

Celotex Ltd. announce that H. Crawford Poole has been elected director in charge of sales.

Honeywell-Brown Ltd. have moved to 52-60. Fletcher Street, Middlesbrough (telephone Middlesbrough 44221-3), where enquiries concerning industrial instrumentation, heating and air conditioning controls, and precision switches will be handled.

Sherwoods Paints Ltd., of Barking, Essex. announce the appointment of Leslie G. Gage as Regional Sales Manager in the South-West of England.

Corrections

In the AJ for February 14, p. 246, the "Admel" Monarch was incorrectly described as a hydraulic drawing board stand: it is in fact a counter-balance drawing board stand.

The Rubery Owen advertisement in the AJ for February 28 featured the new Penkridge C.S.M. School. The architect for this was A. C. H. Stillman, F.R.L.B.A., architect to the Staffordshire County Council education committee, and the Consulting Engineers were Duncan and Harmar of London.

you have to provide for your own retirement—here's a book that will help you.

The last Budget brought good news of tax concessions for those who have to make their own retirement arrangements. 'The Northern' have devised two new plans to make the most of these important new tax reliefs.

Before you make your own plans, you should in your own interest consult 'The Northern'. Their informative and very helpful booklet "Two New Ways to Provide for Your Retirement" will answer *all* your questions. Get your copy from the nearest Northern Office, or from your Insurance Broker, or simply fill in this coupon.

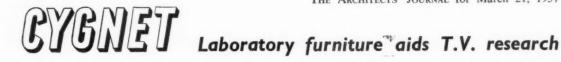
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In the chemical section of the new T.V. Research Laboratory, Enfield, Cygnet Laboratory Furniture has been chosen and installed for its high standard of design, craftsmanship and finish. This installation was carried out under the direction of G. A. Jellicoe & Partners, F/A.R.I.B.A.

Other recent contracts for Cygnet Craftsmanmade Laboratory Furniture include:-

Bowaters, Northfleet—Farmer & Dark, F.R.I.B.A.

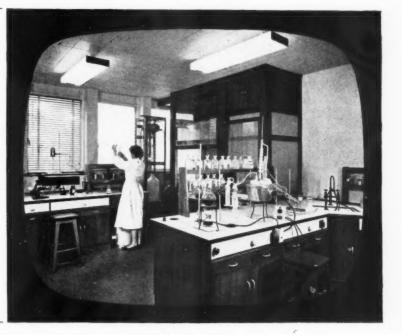
College of Technology, Manchester — Bradshaw, Gass & Hope, F/F.R.I.B.A.

Royal Grammar School, Newcastle-Spence & Price, A.R.I.B.A.

University College, Swansea—Sir Percy Thomas & Son, F/A.R.I.B.A.

Fullers Earth Union-J. Douglass Mathews, F/A.R.I.B.A.

University College, London—Corfiato, Thomson & Partners, F/A.R.I.B.A.





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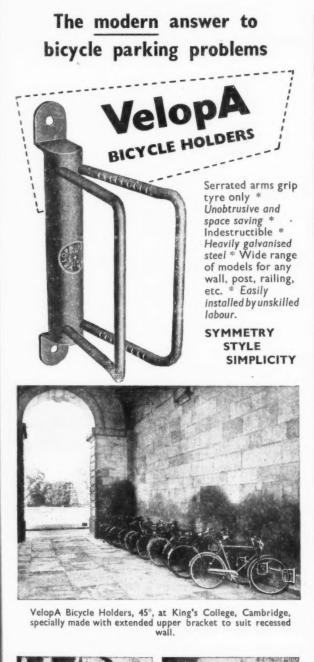


Architect: Thomas Mitchell. B.Sc., A.R.I.B.A.

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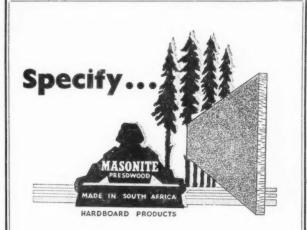
Model RT. 45°, bolted to timber beam.



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EUROPE-GILES-SWITCH ON

The period when English architecture enjoyed the widest, liveliest and most intelligent lay support was not the Eighteenth Century, but the heyday of the Gothic Revival in the Nineteenth. Peter Ferriday, diligent researcher and spritely narrator, recounts the rise and fall of The Revival, its personalities and their opinions in a lively first essay in the ARCHITEC-TURAL REVIEW for March. Equally lively, in its own way, is the theme of Robert Melville's study of Giles, the celebrated cartoonist of the Daily Express, who is also one of the shrewdest and most observant

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architectural draughtsmen of our time. Observation of an equally disenchanted kind characterises J. M. Richards' survey of post-war reconstruction in Europe-the plain average facts of Europe Rebuilt, not the few, over-publicised masterpieces. However, two such masterpieces do appear in this issue, the brilliant new Stadt Theater at Münster in Germany, and Franco Albini's subterranean treasury-museum for Genoa Cathedral. Other recent buildings illustrated include Richard Neutra's Gemological Institute at Brentwood, California, a school, police housing, laboratories and a garage. A new solution to the traffic problem is dealt with by Gordon Cullen, with a plan to Switch ON, and Andor Gomme, editor of the Cambridge Review, contributes an analysis of density-analysis techniques. In Skill, the REVIEW'S monthly survey of interiors, building techniques and industrial design, there are new entrance halls for offices, a printing works and a departmental store, followed by surveys of currently available kitchen storage equipment, and of clothes-drying techniques.

FINLAND—PLYMOUTH BAR-BICAN—ANTISUBTOPIAN

Finland will be in the news in April with the award of the Royal Gold Medal to Alvar Aalto, and the exhibition of Finnish architecture at the RIBA. As a background to these events, the REVIEW will publish a study of the rise of Modern Finnish architecture and Aalto's relation to it-the relationship of The One and the Few-by Reyner Banham, and an extensive survey of recent Finnish buildings. In the same issue, Gordon Cullen considers the plight of the Plymouth Barbican, overlooking Sutton Harbour-a live neighbourhood-centre that local plan-

mined to destroy by a subtopian combination of rule-of-thumb demolitions and dead-head preservations instead of dealing with the area as a whole and as a going concern that only needs an overhaul of its technical equipment. At the small-scale end of urban design, Nicolete Grey contributes a first essay on the character and function of Street-Lettering, and Robert Maguire completes his survey of paving materials in Skill. An electric-fire whose adaptability could revolutionise the future of room heating; a note on the work of the distinguished Italian designer, Gio Ponti, who will be the subject of an exhibition at Liberty's in April; and some observations on the growing revolution of French taste in furniture, by Robert Browning, are among other aspects of the useful arts in this issue. Newly completed buildings illustrated include factories by Ove Arup and Partners, and W S Milburn and partners, while a never-completed dream, Sir John Soane's Triumphal Bridge, is discussed by Dorothy Stroud. Lastly, but by no means least, April will see the inauguration of the ARCHITEC-TURAL REVIEW'S Counter Attack Bureau, whose first case-study will be the replacement by Semi-dets. of terrace housing at Princetown.

ning powers-that-be seem deter-

AMERICA

A personnage assembled from scraps of American advertisements and spitting ticker-tape on the cover of the May ARCHITEC-TURAL REVIEW will announce the theme of a special issue on Machine Made America, a study of the present state of US architecture in terms of its two currently outstanding features, the contribution made by the industrial production of standard components,

and the contributions made by individual architects working outside the field of industrialised building. Compiled, annotated, explained and assessed by the REVIEW's executive editor, Ian McCallum, whose previous foray into the American scene caused raised eyebrows and raised voices when its results appeared in print as a special issue of the Review under the title Man Made America, this new survey, based on a study of architecture rather than the wider scene of land- and townscape, will scrutinise the aesthetics and the technics of the curtain wall as an example of what happens to one of the cherished dreams of the Modern Movement when it finally becomes commercially practicable, and becomes part of the available syntax of architecture. After this it will survey the diverse, original stimulating and experimental work of individuals and individualists from Coast to Coast, a body of work that is the genetrix of architectonic ideas without which the industrial contribution may prove sterile and short-lived. For many of these individualists have made their own pacts and alliances with commercial standardisation, have gone into the merchant builder field, have found their own uses for standard components and government surplus structures, have evolved non-catalogue purposes for the products of technology in ways that seem still to lie beyond the grasp of many architects on this side of the Atlantic. For this reason there is a lesson to be learned, and Machine Made America will conclude by attempting to fit both industrialist and individualist into the matrix

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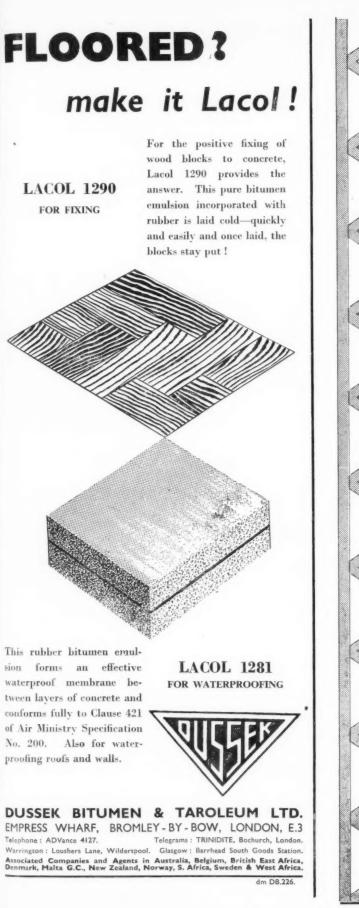
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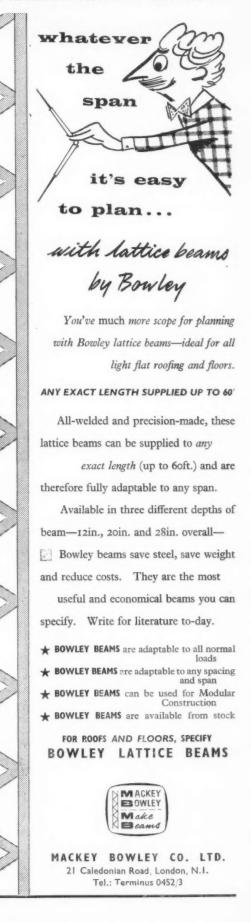
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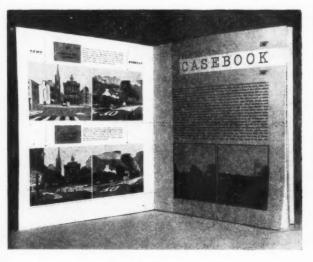
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BY IAN NAIRN

THIS BOOK, a reprint of the December 1956 Special Number of the Architectural Review, is the sequel to Outrage, the book which showed what we are doing to the face of Britain in the name of ' progress', ' amenity ' and the ' national interest.' Its revelation of decaying towns, pockmarked countryside and anonymous suburbs shook the press to the extent of 1,100 column inches of special feature and review space, shattered the complacency of many, opened the eyes of many more; the word then coined to describe this squalid mess-subtopia-has become part of everyday speech.



The response to Outrage proved that there were plenty of people who recognised the mess and who were prepared to do something about it. What they lacked was ammunition: examples of the right way to do things; arguments to refute theories tossed about by the apostles of inertia to save themselves from the necessity of thinking; a common-sense vocabulary for things which are either dismissed as intangible or served up in woolly abstractions. This book provides all these; it is not a set of pious resolutions but a true counter-attack. If your worry is tree lopping, look at page 381; if badly designed lamp-posts, turn to the designs on page 393; if your housing estate looks like a desert, the reasons are given on page 409; if you want to know why planning doesn't stop subtopia, and how it could be reformed, see page 431. There are forty pages of photographs showing well-designed and well sited examples of every kind of object; at the beginning there is a simple four-point common-sense sequence for sane design which can be applied straight away to see what is wrong with any street-the one outside your window, for instance, or the one which contains your office or your pub. This sequence isn't high-flown or obscure; it can be understood in half an hour, and it is described on pages 355-360.

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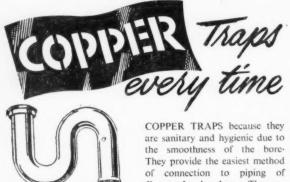
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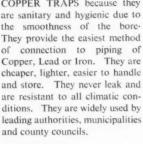
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Public and Official Announcements

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258. per inch; each additional line, 28. LONDON COUNTY COUNCIL -ARCHITECT'S DEPARTMENT Vacancies exist for ABOHITECT/PLANNERS (salaries up to £317). Tasks include 3-dimensional prohonsive Development Areas (including Step-ney/Poplar, the South Bank, and Elephant and Castle) and other Redevelopment Areas. The work includes the preparation of com-prehenaive layouts covering all the important areas of new public and private development throughout the County, and covers the whole field of planning technique. Particulars and application form from Archi-tect (AR/BK/ATP/1), County Hall, S.E.1. (907) 4543

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and for doing good-class work in an expanding department. Applications stating age, qualifications, past and present appointments, present salary and details of experience and training, together with the names of three referees (of which at least two should be architects) should be forwarded to the Secretary, Newcastle Regional Hospital Board, Benfield Koad, Newcastle upon Tyne 6, not later than 28th March, 1957. ISLE OF ELY COUNTY COUNCIL PLANNING DEPARTMENT Vacancy for SENIOR PLANNING ASSISTANT. Salary £727-£907 (A.P.T. Grade IV). Applicants should hold A.M.T.P.I. or other qualifications. Duties concerned, inter alia, with preparation of Town Maps for March and Ely. National Conditions. Application form and Conditions. Putter Science 1957. Clerk of the County Council. County Hall, March. Cambs.

County Hall, March, Cambs

County Hall, March. Cambs. 5546 BOROUGH OF SOUTHGATE BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT ARCHITECTURAL STAFF The Southgate Borough Council invite appli-cations for the following vacancies in the Depart-ment of the Borough Engineer and Surveyor.-TWO ARCHITECTURAL ASSISTANTS, Grade A.P.T. V (2814 17s. 6d.-2994 5s.) plus London weighting. The posts are permanent and superannualed and the starting salary will be fixed in accord-ance with qualifications and experience. Candidates must be Associate Members of the Boyal Institute of British Architects. Torms of application may be obtained from the Borough Engineer and Surveyor and should be returned to the undersigned by not later than 9 a.m. on Thursday. 28th March, 1967. Canvassing, directly or indirectly, will be a disqualification. BORDON H. TAYLOR.

GORDON H. TAYLOR. Town Clerk.

Town Hall. Palmers Green, London, N.13. March, 1957.

March,

London, N.13. March, 1957. 5561 BOROUGH OF WALTHAMSTOW BOROUGH ARCHITECT ENGINEER & SURVEYOR'S DEPARTMENT SURVEYOR'S DEPARTMENT Marchited, Engineer & ARCHITECT ARLIBA., M.I.MUR., AM.T.P.I., Borough Architect, Engineer & Surveyor. The salary for the post will be in accordance with A.P.T. Grade V (1844 17s. 6d.-£1.024 5s., inclusive of London weighting) with the com-mencing salary according to experience. Applications with the names of two persons for reference should be received by the under-signed not later than noon on Saturday, 6th April. 1957, endorsed "Senior Assistant Architect." C.A. BLARKELEY. Town Clerk.

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 HAMPSHIRE COUNTY COUNCUI

 The North-East Area Office of the County Planning Department at Basingstoke on A.P.T. Grade TV (2728-2908) of the National Scales. Candidates should be graduates or have a professional quali-fication, and at least two years' experience in the Planning Department of a public authority, Further desirable qualifications are competency in surveying and fraughtsmaship, considerable experience in layout and design of housing estates and also in general architectural work. The appointment is pensionable and subject to a satis-factory medical report. In approved cases the county Council assist with removal and other expenses.

expenses. Applications, stating age, education, qualifi-cations and experience, with copy of one testi-monial, and the names of two referees, should reach the County Planning Officer. Litton Lodge. Clifton Boad, Winchester, by 8th April. 5607 COVENTRY CORPORATION requires:-(a) GROUP PLANNING OFFICER (Central Area Reconstruction). A.P.T. VII (£999-£1.230.

Area Reconstruction). A.P.T. VII (£999-£1.230). ARCHITECT (Housing Division). A.P.T. V (£814-£904)

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CANNOCK RURAL DISTRICT COUNCIL ARCHITECTURAL ASSISTANT Applications are invited from Associate Members of the R.B.A. for the above permanent post on the staff of the Engineer and Surveyor. Salary grade A.P. IV. (272) 15s.-6907 2s. 6d.) The appointment will be subject to the Local Government Superannuation Acts, medical examination and one month's notice either side the Council will endeavour to assist in the pro-value of housing accommodation and a traveling allowance (essential user scale) will be paid. Applications giving full details of age, qualifi-cations and experience together with the names and adverses of two referees to the undersigned by Monday, April 1st, 1957. Clerk of the Council.

5623

Council Offices, Penkridge, Stafford.

COUNTY BOROUGH OF DONCASTER Vacancies exist in the Borough Architect's Department for (a) one ARCHITECTURAL ASSISTANT, Grade A.P.T. III (2656 to 2734 28. 6d. p.a.) and (b) one JUNIOR ARCHITECTURAL ASSISTANT, Grade A.P.T. I (2545 58. to 2625 58. ~~1

ASSISTANT, Grade A.P.T. I (£543 5s. to £625 5s. p.a.). Applicants must have passed the Intermediate Examination of the R.I.B.A. or its equivalent and for (a) must have had three years' exprience in an architectural office. The appointments will be subject to one month's notice on either side, to the provisions of the Local Government Superannuation Acts 1937/53 and to the N.J.C's Scheme of Conditions of Service. The successful applicants will be re-quired to pass a medical examination. Application forms may be obtained from the Borough Architect, 15. South Parade, Doncaster, to whom they should be returned by Monday, the lst April, 1957. H. R. WORMALD.

H. R. WORMALD, Town Clerk.

H. R. WORMALD, Town Clerk. Doncaster. <u>11th March</u>, 1957. <u>5624</u> The CORPORATION OF LONDON require for OITY PLANNING OFFICE (Civic Design Section)-TEMPORARY PLANNING ASSIS-TANT (2512 108 by 10 increments-2614 178, 6d.), point of entry dependent on age and experience. Candidates should have a sensitive and contem-porary approach to design and preferably an architectural background; duties include assistance with redevelopment proposals for Barbican and other areas in the City of London as well as work of a general nature. Local Authority experience not essential. Appli-cations with details of training, experience, age, present salary, the City of London is 5561, Moorgate, London, E.C.2, within fourteen days of the date of this advertisement. 5620

SURREY COUNTY COUNCIL Applications invited for following appoint-

Applications invited for following appoint-ments:--1. ASSISTANT ARCHITECT GRADE IV, 4727 158.-2907 28. 6d. p.a. plus £30 London Allowance. Must be A.R.I.B.A. 2. ARCHITECTURAL ASSISTANT GRADE II, £609 178. 6d.--£691 178. 6d. p.a., plus London allow-ance up to £30 p.a. Must be of good general train-ing, preference given those who have passed Intermediate R.I.B.A. 3. ASSISTANT QUANTITY SURVEYOR GRADE IV, £727 158.-2907 28. 6d. p.a., plus £30 London Allowance. Must be A.R.I.C.S. Full details, present salary and 3 copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 5619 CITY OF OXFORD

Kingston, as soon as possible. 5619 CITY OF OXFORD Vacancy for ARCHITECTURAL ASSISTANT (2726-2907 108:, per annum) in the City Architect and Planning Officer's Department, Candidates must have passed the Final Examination of the Royal Institute of British Architects, be canable of preparing sketch designs, full working draw-ings, specifications, etc. Housing accommodation, if required, will be? provided by the Council. Details and application forms from the City Architect and Planning Officer, Town Hail, Oxford, to be returned completed by 6th April, 1957.

HARRY PLOWMAN, Town Clerk.

5652

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 Application forms obtainable from and to be returned to the Borough Architect. The Council House, Corporation Street, Derby, not later than Monday, 1st April, 1957.
 G. H. EMLYN JONES.

 Town Clerk, 7th March, 1957
 5597

7th March, 1957

COUNTY BOROUGH OF GREAT YARMOUTH SCHOOLS ARCHITECTS DEPARTMENT Applications are invited from Associate Members of the R.B.A. to fill the vacancy for a SENIOR SSIRTANT ARCHITECT within A.P.T. Grade V 1814 17s. 6d. -2994 5s.). Candides should have a knowledge of modern school design and construction. Bousing accommodation will be made available for the successful candidate, if married. Applications, stating age, qualifications, ex-orethe successful candidate, if married. Applications, stating age, qualifications, ex-orethe successful candidate, if married. Applications, stating age, qualifications, ex-orethe successful candidate, if married. Applications, stating age, qualifications, ex-orethe schools Architect, 22, Enston Road, Great Yarmouth, by 29th March, 1957. Cheig Education Officer. 22, Euston Road,

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Great Yarmouth, by 29th March, 1951. Chief Education Officer. 22. Euston Road, Great Yarmouth. Great Yarmouth. Great Yarmouth. Great Yarmouth. MORTH RIDING EDUCATION COMMITTEE ASSISTANT ARCHITECT required in the Education Architect's Department Grade A.P.T. Yand V. salary 2727 15s.-6994 5s., A.R.I.B.A. required. Previous experience may be taken into account in fixing commencing salary, and ex-perience with Local Authority not essential. Car. travelling and subsistence allowances. Local Government Superannuation Act. Canvassing dis-qualifies. Closing date for comoleted applications 15th April, 1957. Further particulars from F. Bartaclough, County Hall, Northallerton. 5289 BASILDON DEVELOPMENT CORPORATION DEPARTMENT OF ARCHITECT URE AND PLANNING Applications are invited for the following posts. (a) ASSISTANT ARCHITECT PLANNER Grade A.P.T. 111, 2640-£166, plus 24%. (d) JUNIOR ASSISTANT ARCHITECT Grade A.P.T. V. 2795-4970, plus 24%. The Architect Will work on Housing or a very large Factory. Experience and ability in con-temporary design and preparation of working drawings is essential. Post (a) additionally re-quires experience in contract supervision and ontol. The Architect Planner must be experienced in

large Factory. Experience and ability in con-temporary design and preparation of working quires experience in contract supervision and outer.
 The Architect Planner must be experienced in the implementation of a Master Plan and have ability in detailed planning of Housing and industrial development.
 Posts (a), (b) and (c) require A.R.I.B.A., and post (b) additionally A.M.T.P.I.
 Al appointments are superanuable and subject to satisfactory medical examination.
 Mong available for renling.
 Mplications on the special form (obtainable from the Chief Architect) to the General Manager, Basildon. Every BOROUGH OF DEWSBURY BOROUGH ARCHITECT AND BULLDINGS
 COUNTY BOROUGH OF DEWSBURY BOROUGH ARCHITECT AND BULLDINGS SURVEYOR'S DEPARTMENT
 Applications are invited for the appointment of ASSISTANT ARCHITECT (Housing and General Survey and acchitectural experience and satisfact a coording to qualifications and exclusion accomodation will be made available if required.
 The appointment will be subject to one month's notice on either side and to the provisions of the successful applicants should be Registered Archi-tects with good architectural experience and succomodation will be made available if required.
 The appointment will be subject to one month's notice on either side and to the provisions of the successful applicants whould be Registered Archi-tects with good architectural experience and succomodation will be made available if required.
 The appointment superannuation Acts. The successful applicants of training and experience, solical examination.
 Applications stating age, education, qualifica-tions, full particulars of training and experience, solub be sent to the undersigned not later than tructict.
 ANCEMAN JAMES. Town Clerk.

A. NORMAN JAMES, Town Clerk.

Town Hall, Dewsbury. 8th March, 1957. 5600 BOROUGH OF HESTON AND ISLEWORTH 5600

BOROUGH OF HESTON AND ISLEWORTH Applications are invited for the undermentioned appointments in the Borough Engineer and Surveyor's Department:— (A) SENIOR ARCHITECTURAL ASSISTANT, Grade APT.IV (£127.15.0.-£907.2.6.). Applicants must have had good experience in architectural design and building work under construction. Other things being equal, prefer-ence will be given to applicants who have passed the examination for the Associateship R.I.B.A. or hold a University degree or diploma in architecture accepted by that Institute.

diploma in architecture accepted by una-Institute. (B) GENERAL ARCHITECTURAL ASSISTANT, Grade APT.III (£656-£784.26.). Applicants should have passed the R.I.B.A. Intermediate examination and must have had good general architectural experience. London Weighting is payable in addition. The Council is unable to assist the successful candidates with housing accommodation. Applications are to be submitted by 8th April. 1957, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 8, Lampton Road, Hounslow. D. MATHIESON. Town Clerk.

Town Hall, Hounslow.

Town Clerk.

5660

KENT COUNTY COUNCIL Appointments for work on the Council's ex-tensive building programme are open to Architetts able to accept responsibility and display initiative within a group system. Ability for progressive thought on current design and cost problems an advantage.

thought on current design and cost problems an advantage. Candidates must be Associates of the R.I.B.A. Salaries within scales £814-£994 or £727-£907 according to experience. N.J.C. conditions of service. Application forms from the County Architect. Springfield, Maidstone. Closing date 10th April, 1957 5625

Architect, Springheid, Maldstone, Closing date 10th April, 1957. 5525 AIR MINISTRY Works Designs Branch requires in London and Provinces ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings, Salaries in London up to 4925 p.a. for men and £849 for women. Somewhat lower in Provinces. Starting pay de-pendent on age, qualifications and experience. Long term possibilities with promotion and pensionable prospects. Five-day week, 3 weeks 3 days leave a year, Liability for overseas service. Normally natural born British subjects. Write stating age, qualifications, employment details including type of work done, to any Employment Exchange, quoting Order No. Borough 1000. 5602 BOROUGH OF NEWCASTLE-UNDER-LYME require

BOROUGH OF NEWCASTLE-UNDER-LYME require:=-(a) ASSISTANT QUANTITY SURVEYOR, A.P.T. IV (627 15s.-4907 2s. 6d. p.a.). (b) ASSISTANT QUANTITY SURVEYOR, A.P.T. III (1656-4784 2s. 6d. p.a.). Applicants are required for taking off in con-nection with New Schools and Housing Con-tracts. Commencing sularies will be in accordance with qualifications and experience. Favourable consideration will be given to the provision, by the Council, of housing accommoda-tion in suitable cases. Application forms may be obtained from the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs., and must be returned to him not later than Tuesday. 2nd April, 1957. C. J. MORTON,

C. J. MORTON, Town Clerk. 5651

CITY OF LIVERPOOL ARCHITECTURAL AND HOUSING DEPARTMENT Applications are invited for the following

Applications are invited for the following appointments, viz.:-(1) THREE SENIOR ARCHITECTS, Salary (299) 7s. 6d. to £1.230 per annum (A.P.T. VII). (2) THREE SENIOR ARCHITECTS, Salary (202) THREE SENIOR ARCHITECTS, Salary (202) THREE SENIOR ARCHITECTS, Salary (202) The persons appointed must have had experi-ence of Housing or General Architectural Work and be Associates of the Royal Institute of British Architects. Application form, returnable by 6th April, 1957, may be obtained from the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. The appointments are superannuable and sub-ject to the Standing Orders of the City Council. Canvassing disqualifies. THOMAS_ALKER.

THOMAS ALKER. Town Clerk.

(J.4716) 5657

(J. 4(16) 5663 NORTHUMBERLAND COUNTY PLANNING DEPARTMENT (1) ARCHITECTURAL ASSISTANT, A.P.T. Grade IV. (2) DEVELOPMENT CONTROL ASSISTANT. A.P.T. Grade IV. Applications are invited for the above appoint-ments

UNIVERSITY COLLEGE OF NORTH STAFFORDSHIRE Applications are invited for the post of ASSIS-TANT ARCHITECT on the staff of the Buildings Officer and Architect. Salary in the scale 5902 stal-e1.107 p.a. The post is superannuable. Applicants should have particular experience in design and should be school-trained with at least 4 years' practical experience. Duties may include work on buildings for teaching and research, students' hostels, staff residences, general pur-poses buildings for description. Applications may be obtained from the Registar, The College. Keele, Staffs., to whom 3 copies of application giving full details of age, qualifications, ex-perience, etc. and names of three referees should be sent within 10 days of publication of this adverteement. 5637

257. T. H. EVANO. Clerk of the County Council. 5632

Clerk of the County Council 3632 STAFFORDSHIRE COUNTY COUNCIL COUNTY PLANNING AND DEVELOPMENT DEPARTMENT Applications are invited for the appointment of JUNIOR PLANNING ASSISTANTS on A.P.T. Grades I.-HII (2643 5s. to 2784 2s. 6d. per annum) at Stafford and Wolverhamptor. Applicants for the appointment should have had those who have passed the Intermediate and training qualifications, present and previous Applicants and experience, and the names of two persons to whom reference can be made, provide the Stafford, not later than the the disclosed, should be sent to D. W. Riley. County Planning and Development Officer, 41a. The March, 1957. Clerk of the Count Council

T. H. EVANS. Clerk of the County Council. 5631

Clerk of the County Connell. <u>561</u> **HERTFORDSHIRE COUNTY COUNCIL COUNTY ARCHITECTS DEPARTMENT AUDICAL STATES** Applications are invited for the following remanent appointments:--"(a) SENIOR ASSISTANT QUANTITY SURVEYORS. (b) ASSISTANT QUANTITY SURVEYORS. (c) ASSISTANT QUANTITY ASSISTANT. (c) ASSISTANT QUANTY ASSISTANT QUANTY ASSISTANT. (c) ASSISTANT QUANTY ASSISTANT. (c) ASSISTANT QUANTY ASSISTANT QUANTY ASSISTANT COUNTY ASSISTANT. (c) ASSISTANT QUAN

PADDINGTON BOROUGH COUNCIL HOUSING DEPARTMENT A. SENIOR ASSISTANT ARCHITECT (£1,029 75. 6d. to £1,260). A. R.I.B.A. essential; experience in building construction; design and supervision of housing schemes including multi-storey reinforced concrete frames structures; con-trol of staff; town planning; local government (A.330). B. ARCHITECTURAL ASSISTANT (MARKED)

(A.330). B. ARCHITECTURAL ASSISTANT (£686 to £814 2s. 6d.) preferably Intermediate A.R.I.B.A., some experience of multi-storey housing work some (A.331)

some experience of multi-storey housing work (A.33), C. JUNIOR to train as QUANTITY SUR, VEYOR'S ASSISTANT (£404 7s. 6d. at age 21, rising annually to £686 subject to "efficiency bars"), G.C.E (4 passes); excellent opportunities for students preparing for quantity surveying examinations, financial assistance towards train-ing expenses (A.332). Starting salary in all cases according to qualifi-cations and experience. N.J.C. conditions. Write age, educational qualifications, experience, present and past appointments, and names of three referees to the under-signed by 5th April, 1957 (quoting reference number). W. H. BENTLEY, Town Clerk.

5650

Town Hall, Paddington Green, W.2.

Atter than Wednesday, 27th March, 1967. L. L. CUY Architect. 1. L. NCASHIRE COUNTY COUNCIL TANCASHIRE COUNTY COUNCIL PLANNING ASSISTANTS required in the Headquarters' Section at Present preparation of the development plan; the drafting to policy and the control of rural kand use; dandscaping problems, mineral working, tipping, dandscaping problems, mineral working, tipping, dandscaping problems, mineral working, tipping, and the control of rural kand use; dandscaping problems, mineral working, tipping, dandscaping, problems, taping, tipping, dandscaping, problems, taping, tipping, dandscaping, tipping, tipping, tipping, tipping, dandscaping, tipping, tipping, tipping, tipping, dandscaping, tipping, tippin

BOROUGH OF SUTTON AND CHEAM BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT APPOINTMENT OF ARCHITECTURAL DAUGHTSMAN Applications are invited for the following sorough Engineer's Department. — Architectural Section of the sorough Engineer's Department. — Architectural Decuderation of the sorough Engineer's Department of the Solary offered will be according to age, ability and sysperience. (The salary at age 22 will be not except the solary at age 22 will be not except the according to age, ability and sysperience. (The salary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at age 22 will be not except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a solary at a solary except the solary at a

Municipal Offices, Sutton, Surrey.

Architectural Appointments Vacant 4 lines or under, 7s. 6d.; each additional line, 2s.

W. H. WATKINS, GRAY & PARTNERS •require qualified ASSISTANTS for inter-esting hospital work, pension scheme in operation. Write or 'phone, 57, Catherine Place, S.W.1. Victoria 7761.

CROYDON. SENIOR and JUNIOR ASSIS-TANTS required for interesting and varied work. The former able to manage contracts and the latter with general office experience. Write in both cases giving age, experience and salary required, to George Lowe & Partner, F./A.B.I.B.A., 4, High Street, Croydon. 5451

A PRIVATE OFFICE has several vacancies for ARCHITECTS interested in new building techniques. Previous experience not essential and work will include the research and development of standard structural and building elements. Apply A. M. Gear, F.R.I.B.A., 12, Manchester Square, W.1. 5581

A RCHITECTURAL ASSISTANT required in West End office Should have some experience of general procedure, including site supervision, etc., in addition to good standard of draughtsman-ship and building construction. State age, ex-perience and salary required. Box 5511.

CONDON firm with interesting work including home and overseas school work requires qualified ASSISTANT. Salary according to experience. Telephone CHAncery 3526. 5541

CAPABLE SENIOR ASSISTANT required to C TABLE SEATOR ASSISTANT required to take control of small but expanding office in the North East. Varied and interesting work. Good prospects for a man with ability and initiative. Staff pension scheme. Salary accord-ing to ability. Box 5462.

CHARTERED ARCHITECTS in Home Counties with large and varied practice require capable ASSISTANT with ability in perspective and colour work. Box 5538.

A CCHITECT. Excellent opportunity for re-cently qualified A.R.I.B.A. for interesting work in busy general practice. Manchester area. Box 5496.

A BCHITECTURAL ASSISTANTS required in husy and varied practice. Salary range from £600/2750 intermediate standard or near. Non-contributory Life Assurance and Pension Scheme. Apply stating age, experience and salary required to Fennell & Baddiley. Chartered Architects, Chester-le-Street, Co. Durham. 5662

A SSISTANT ARCHITECTS AND SHOP-FITTING DRAUGHTSMEN. Co-operative Wholesale Society, Ltd., invite applications for the following appointments · (1) Assistant Archi-tects capable of preparing working drawings from preliminary details. (2) Shopfitting Draughtsmen with experience in Shop Equipment and modern-isation of Interiors. The posts are pensionable, subject to medical examination. Five-day week in operation. Appli-cations, giving age, details of experience and salary required to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1. 497

A RCHITECTURAL DRAUGHTSMAN ex-perienced in complete working drawings from sketch plans for small private practice covering all types of work except ecclesiastical. Salary fully commensurate with ability. A. V. Farrier, A.R.I.B.A., 7 Thornton Hill, SW19. 5444 from sketch covering all Salary fully

A SSISTANT required for office with town and country work. State experience and present y. Excellent prospects for the right man. salary. Box 5674.

TWO ARCHITECTURAL ASSISTANTS of Intermediate standard required for interest-ing work in varied practice. Shose, Offices, Flats and Housing schemes, etc. Salary by arrangement. George Watt, A.R.I.B.A., 146, Mostyn Road, Merton Park, S.W.19, LIB 8181. 5431

ARCHITECTURAL ASSISTANT required, ence. Write or telephone giving full particulars, including age and salary, to Hasker & Hall, Architects, 13, Welbeck Street, W.1 (WELbeck 0061).

VACANCIES for ARCHITECTURAL ASSIS-TANTS, particularly Junior and Inter-mediate grades. Applicants with knowledge of commercial work and London experience an ad-vantage. Varied practice, five-day week. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, London, W.C.1. Holborn 5108. 3152

BUSY progressive office, Sheffield area, wide experience, require immediately JUNIOR and SENIOR ASSISTANTS. Intermediate or Final R.I.B.A. Good salary and bonus, together with permanency, for suitable applicant.—Please apply Box 5595.

A RCHITECTS' Co-partnership require QUALI-FIED ASSISTANTS with experience. Write 44, Charlotte Street, W.1, or telephone Langham 5642 5791

TAKER-OFF. Applications are invited from experienced and suitably qualified persons in an R.I.C.S. approved office. Salary on the scale 4650-10.05, inclusive of L.W., with placing according to age, qualifications and experience. The post is superannable, subject to medical examination. Five-day week in operation. Appli-cations, stating age, experience, qualifications and salary required to : W. J. Reed, F.R.I.B.A., Chief Architet, Cooperative Wholesale Society, 11d., 99, Leman Street, London, E.1. 5512

EXPERIENCED and JUNIOR ASSISTANTS required by London Architect for interesting work including hospitals and laboratories, etc. Opportunity to take charge of contracts including site supervision. 5-day week. Salaries £600 to £600 pa. according to experience. Write, giving details of age and experience, etc., to Box 5550.

LARGE BUILDERS in the Home Counties are expanding their Planning Office to include design of Multi-storey Flats, Offices, etc., which will incorporate Curtain Walling of their own manufacture. Applications for this position are invited from suitable candidates. The successful applicant will take sole charge of this work for which he would be responsible to the Directors. Write Box 5571

CITY OF GLASGOW Architectural and Planning Department

ARCHITECT/PLANNERS WANTED

Those looking for an opportunity of joining an enthusiastic team of forward looking architect planners working on some of the largest compre-hensive development areas in the Nedevelopment Group of our Planning Division just what they are looking for. The work includes three-dimensional plan-ning in a number of comprehensive development areas, including high-density residential schemes and central area commercial redevelopment. The salary scale for the assistantships now vacant is £765-£1.100, placing according to ex-perience and qualifications. Application form may be obtained from the principal Administrative Officer, 20 Trongate, Glagow, C.1.

A. G. JURY. City Architect and Planning Officer

TEBHBARNE & NORMAN, PRESTON & PARTNERS have vacancies for SENIOR and JUNIOR ASSISTANTS. Salaries according to experience and qualifications. Apply: 83, Kings-way, W.C.2. (HOL 4071). 5579

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A BCHITHOTUEAL ASSISTANT required immediately for small busy general practice. Saary according to experience. Write giving full details of experience, qualifications, age and saary to Tennant & Smith, F./A.R.I.B.A., Ropen-gate, Pontefract, Yorkshire.

S ENIOR ARCHITECTURAL ASSISTANT re-quired by London Architects. Luncheon voucher scheme.—Reply, stating experience, quali-fications, etc., Box 5642.

A RCHITECTS require qualified ASSISTANT for West Yorks. Good design ability, pre-pared to travel on interesting schemes. School-trained principals offer scope and prospects to graduate with initiative.—Box 5655.

DETAIL DRAUGHTSMEN for interesting and varied work required by Staff Architect to Company designing pre-fabricated timber struc-tures. Sound knowledge and experience of build-ing construction essential. 5-day week.—Reply. giving full particulars of age, experience, and salary required, to Box 5659.

A RCHITECTURAL ASSISTANT required, Intermediate standard, North Devon office.

A BCHITECTURAL ASSISTANTS required in varied practice in Buckinghamshire, 50 miles from London. One at Final R.I.B.A. and one at Intermediate R.I.B.A.-Please write, stating salary required, to Box 5634.

YOUNG ASSISTANT, good draughtsman, capable of small building surveys.-Write or telephone G. A. Crockett, 10, Adelaide Street, Strand, W.C.2. Temple Bar 1603. 5633

HARROW Office requires ASSISTANTS. One Intermediate standard, experienced working drawings, surveys, etc. One Junior with some experience.—Please write full particulars, includ-ing salary required, to Field & Shaw, 40, Station Road, N. Harrow, Middx., Chartered Architects. 5418

A RCHITECT wanted by expanding firm of Builders and Developers (Midlands area). Must have experience in layouts, all types resi-dential plans, and capable working up schemes, supervising same, taking off quantities, etc. Sales experience advantageous but not essential. Younger person desired, for whom there are excellent prospects to organise this new depart-ment. Applicant must be willing, reliable, and conscientious, and to produce good references. Please give fullest details in first instance, and salary required, in strict confidence, Field, 107, Dale End, Birmingham, 4.

Dale End, Birmingham, 4. 5647 A RCHITECTURAL ASSISTANT.—The London Cooperative Society, Ltd., invite applica-tions for the vacancy of ARCHITECTURAL ASSISTANT at their Works Department, Whitta Road, Manor Park, London, E.12. The successful candidate will be required to pass a medical examination and after a probationary period to participate in the Society's Contributory Staff Pension Scheme. Applicants should have reached Intermediate R.I.B.A. standard, and have par-ticularised experience in the design of shopfronts and the design and layout of shopfitnits. Com-mencing salary at the rate of £650 per annum.— Write Staff Office, London Co-operative Society, Ltd., 54, Maryland Street, Stratford, E.15. Endorse application "Architectural Assistant." 5645 5645

5645 A RCHITECTURAL ASSISTANT required, Inter, R.I.B.A. standard or thereabouts, age 22-28, for expanding Lake District practice.-Full particulars to Hargreaves & Mawson, Archi-tects and Surveyors, 25, Finkle Street, Kendal, Westmorland. 5646

A RCHITECTURAL ASSISTANT, Intermediate standard, with experience in preparing work-ing drawings and details, required immediately in Plymouth Architect's office.-Full particulars, including age and salary, to Box 5658.

ARCHITECTS (W.C.1) require ASSISTANT, Intermediate standard or just over, Varied practice. Office experience essential.-Write par-ticulars and salary required.-Box 5643.

ticulars and salary required.—Box 5643. SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS wanted in office with variety of work on hand, including Office Blocks, Schools, Domestic, Civic and Ecclesiastical Buildings.— Apply in writing to Sir Giles Scott, Son & Partner, 9, Gray's Inn Square, London, W.C.1. 5648 SENIOR ARCHITECTURAL ASSISTANT re-quired for responsible position in connec-tion with industrial and other projects.—Appli-cations, stating training, experience, and salary required, to Llewellyn Smith & Waters, 103, Old Brompton Road, S.W.7. TANTED, qualified ARCHITECTURAL

cations, stating training, experience, and salary required, to Llewellyn Smith & Waters, 105, Old Brompton Road, S.W.7. WANTED, qualified ARCHITECTURAL ASSISTANTS for West End office, prefer-ably with experience in modern office blocks, varied practice of a contemporary nature. Tele-phone for appointment, Langham 7236.-Theo. H. Birks, F.R.I.B.A. UALIFIED ARCHITECT required for WALVIS BAY, S.W. Africa. Salary 490 monthly plus half-yearly bonus. Two-year con-tracts. Write for details, quoting 058,92/1 to 0.7.S., 5, Welldon Crescent, Harrow, Middx. 5651 ASSISTANT ARCHITECTs required in busy west Riding of Yorkshire and Middlesbrough, as follows: (a) Senior Architects to be Associates of the R.L.B.A., with considerable experience, pre-ferably in schools, commercial or industrial work. Salary 21,000 per annum, according to experience. (b) Qualified Assistant Architects with minimum two years' office experience. Salary 2650 to 2550 per annum, according to experience. Pension Scheme in operation and good prospects for pro-motion.-Apply, with full particulars, to J. G. L. Poulson, Chartered Architect, 29, Ropergate, Pontefract, Yorkshire. 501 SCHERRER & HICKS, 19, Cavendish Square, W., require an ARCHITECTTECTURAL ASSIS

Pontefract. Yorkshire. 5617 SCHERRER & HICKS, 19, Cavendish Square, W.I. require an ARCHITECTURAL ASSIS-TANT, of Intermediate standard, experienced in working drawings and details.-Write, stating age, experience, and present salary. 5612 ARCHITECTURAL ASSISTANTS required.-Apply, stating age, qualifications and ex-perience, to Grace & Farmer, 5, Crawford Street, W.I. 5611

MANCHESTER.-Vacancy exists in private office for an ASSISTANT ARCHITECT. Scope for design, initiative, and responsibility at all stages from sketch plan to final account. Age 25/35, Salary £600-£950. Car allowance.-Box 5605.

Box 5605. Bix 5605. Bix 1007 State of the second second

TS0.-Box 5521. **TRY.** DREW. DRAKE & LASDUN require qualified and experienced ARCHITECT. as Arcica. 13 months' tour; 3 months' leave, full pay: free house; return passage for self and wife.-Write, with details of training, quali-fications, experience, etc., to Secretary, 63, Gloucester Place, W.1.

MAIDSTONE Architects require ASSISTANT, Inter. R.I.B.A. standard. Some office ex-perience preferred.—Apply Read & McDermott, F.R.I.B.A., 18, High Street, Maidstone. 5608 TWO ARCHITECTURAL ASSISTANTS re-quired in St. Albans office. Intermediate standard—contemporary outlook preferred but not essential—for working on large building projects. Salary by arrangement. Write giving full details of experience, etc., to Box 5540.

Architectural Appointments Wanted

4 lines or under, 7s. 6d.; each additional line, 2s. ASSISTANT, R.I.B.A. Finals. seeks part-time work, evenings, week-ends. Working draw-ings, surveys, etc. London area. Car owner. Box 5548.

Box 5548. A RCHITECT (32), married, public school, school trained, A.R.I.B.A. 1953, requires partmership (or position leading to one in agreed period) in London or provinces. Limited capital. Unlimited energy and ambition.—Box 5627.

COMPETENT DRAUGHTSMAN for the pre-paration of Working Drawings, Tracings, Surveys, etc. Moderate charge.—Box 5658.

A RCHITECTURAL ASSISTANT, 5 years' ex-perience, requires position in South-West, specialising in contemporary houses and shops.— Box 5598.

Box 5598. A SSOCIATE, R.I.B.A., aged 38, requires per-manent position, with definite prospects, in private practice or industry, at home or in Canada. Wide experience, willing to take re-sponsibility, use initiative, and to work hard.— How 5654 Box 5654.

Other Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s. EDITORIAL SECRETARY/ASSISTANT re-quired for Architectural Magazine. Typing essential; ability to trace plans an advantage. State experience.—Box 5622.

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ing Board, Thames Ditton, Surrey. 5616 **CENERAL MANAGER.**—A building and con-tracting organisation, with headquarters in London, invites applications for the post of General Manager. Applicants should be men between 35 and 50, with sound technical quali-fications and extensive experience of industrial and domestic building, contracting and jobbing work, and have held a top level executive post for not less than 3 years. Commencing salary £5.000 per annum, plus profit sharing. It is intended that the selected candidate will be appointed to the Board after one year, and opportunities for rapid and sub-stantial increase of salary are excellent. Please write, giving brief details of qualifica-tions and experience, in strict, confidence, to Assistant Director (H23). 14, Welbeck Street, London, W.L.

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